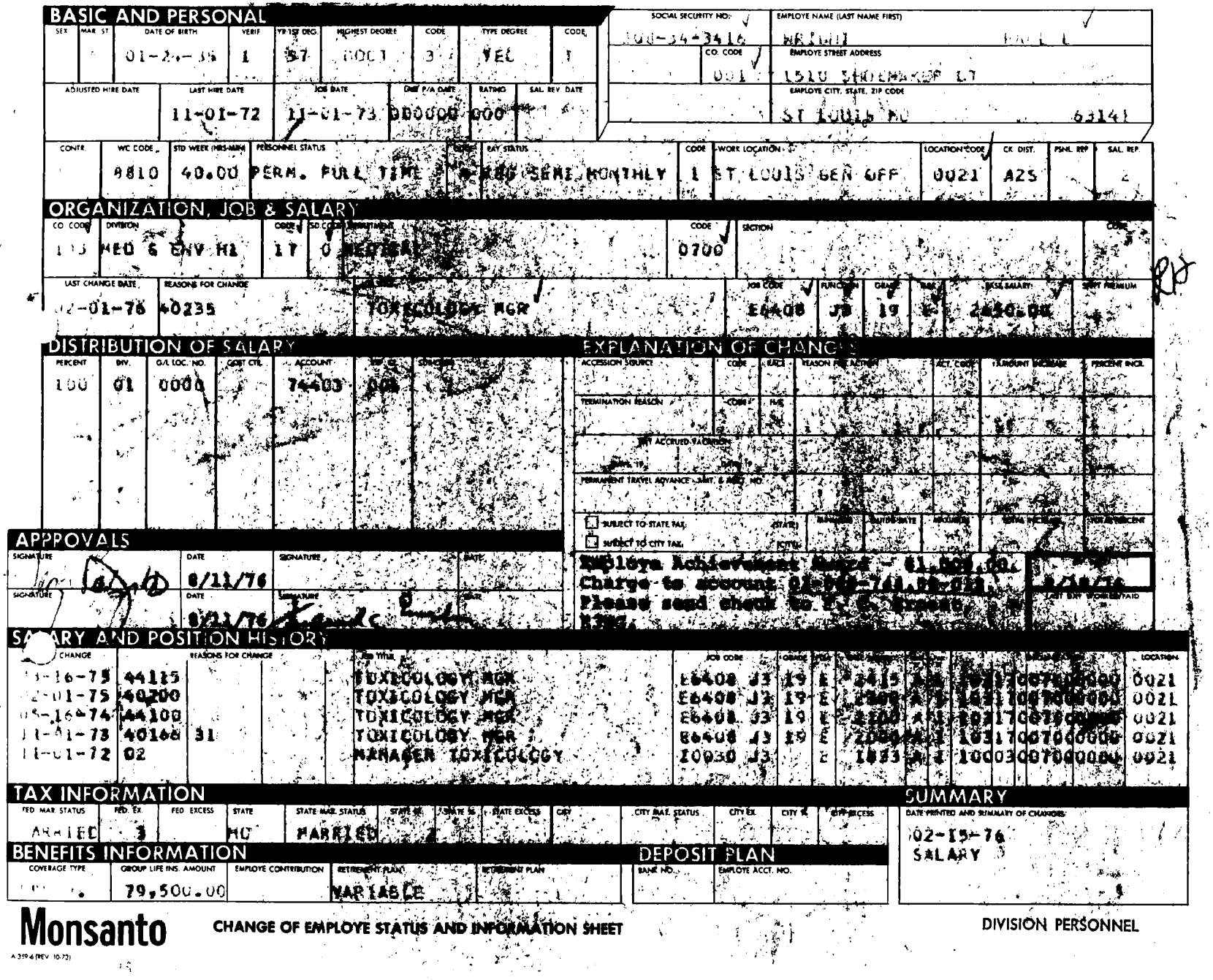
# EXHIBIT I



BASIC AND PERSONAL

| SEX | MAR ST | DATE OF BIRTH | VERIF | YR 1ST DEG | HIGHEST DEGREE | CODE | TYPE DEGREE | CODE |
|---|---|---|---|---|---|---|---|---|
| | | 01-24-35 | 1 | 57 | MSCT | 3 | VEC | 1 |

| SOCIAL SECURITY NO: | EMPLOYE NAME (LAST NAME FIRST) |
|---|---|
| 000-34-3416 | [illegible] |

| CO. CODE | EMPLOYE STREET ADDRESS |
|---|---|
| 001 | 1510 [illegible] LT |

| ADJUSTED HIRE DATE | LAST HIRE DATE | JOB DATE | DATE P/A DATE | RATING | SAL. REV. DATE | EMPLOYE CITY, STATE, ZIP CODE |
|---|---|---|---|---|---|---|
| | 11-01-72 | 11-01-73 | 000000 | 000 | | ST LOUIS MO 63141 |

| CONTR | WC CODE | STD WEEK HRS-MIN-M | PERSONNEL STATUS | CODE | PAY STATUS | CODE | WORK LOCATION | LOCATION CODE | CK DIST. | PSNL REP | SAL. REP |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 9810 | 40.00 | PERM. FULL TIME | 1 | SEMI-MONTHLY | 1 | ST LOUIS GEN OFF | 0021 | A25 | | |

ORGANIZATION, JOB & SALARY

| CO. CODE | DIVISION | CODE | SD CODE | DEPARTMENT | CODE | SECTION | CODE |
|---|---|---|---|---|---|---|---|
| 1 | MED & ENV HL | 17 | 0 | [illegible] | 0700 | | |

| LAST CHANGE DATE | REASONS FOR CHANGE | JOB TITLE | JOB CODE | FUNCTION | GRADE | RATE | BASE SALARY | SHIFT PREMIUM |
|---|---|---|---|---|---|---|---|---|
| 02-01-76 | 40235 | TOXICOLOGY MGR | E6408 | J3 | 19 | E | 2450.00 | |

DISTRIBUTION OF SALARY

| PERCENT | DIV. | G/L LOC. NO. | COST CTR. | ACCOUNT | SUB CL | SUB ACCT |
|---|---|---|---|---|---|---|
| 100 | 01 | 0000 | | 74403 | 000 | |

EXPLANATION OF CHANGE

| ACCESSION SOURCE | CODE | RACE | REASON FOR ACTION | ACT. CODE | AMOUNT INCREASE | PERCENT INCR. |
|---|---|---|---|---|---|---|
| | | | | | | |

| TERMINATION REASON | CODE | RACE |
|---|---|---|
| | | |

DAY ACCRUED VACATION

PERMANENT TRAVEL ADVANCE - AMT. & ACCT. NO.

☐ SUBJECT TO STATE TAX (STATE)

☐ SUBJECT TO CITY TAX (CITY)

Employe Achievement Award - $1,000.00
Charge to account [illegible]
Please send check to [illegible]

APPROVALS

| SIGNATURE | DATE | SIGNATURE | DATE |
|---|---|---|---|
| [signature] | 8/12/76 | | |
| [signature] | 8/12/76 | [signature] | |

SALARY AND POSITION HISTORY

| CHANGE | REASONS FOR CHANGE | | JOB TITLE | JOB CODE | GRADE | RATE | BASE SALARY | SHIFT PREMIUM | LOCATION |
|---|---|---|---|---|---|---|---|---|---|
| 03-16-75 | 44115 | | TOXICOLOGY MGR | E6408 | J3 | 19 | E | [illegible] | 0021 |
| 02-01-75 | 40200 | | TOXICOLOGY MGR | E6408 | J3 | 19 | E | [illegible] | 0021 |
| 03-16-74 | 44100 | | TOXICOLOGY MGR | E6408 | J3 | 19 | E | [illegible] | 0021 |
| 11-01-73 | 40168 | 31 | TOXICOLOGY MGR | E6408 | J3 | 19 | E | [illegible] | 0021 |
| 11-01-72 | 02 | | MANAGER TOXICOLOGY | E0930 | J3 | | E | [illegible] | 0021 |

TAX INFORMATION

| FED. MAR. STATUS | FED. EX | FED. EXCESS | STATE | STATE MAR. STATUS | STATE EX. | STATE % | STATE EXCESS | CITY | CITY MAR. STATUS | CITY EX. | CITY % | CITY EXCESS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MARRIED | 3 | | MO | MARRIED | 1 | | | | | | | |

SUMMARY

DATE PRINTED AND SUMMARY OF CHANGES

02-15-76
SALARY

BENEFITS INFORMATION

| COVERAGE TYPE | GROUP LIFE INS. AMOUNT | EMPLOYE CONTRIBUTION | RETIREMENT PLAN | RETIREMENT PLAN |
|---|---|---|---|---|
| | 79,500.00 | | VARIABLE | |

DEPOSIT PLAN

| BANK NO. | EMPLOYE ACCT. NO. |
|---|---|
| | |

Monsanto

A 359-6 (REV. 10-72)

CHANGE OF EMPLOYE STATUS AND INFORMATION SHEET

DIVISION PERSONNEL

WATER_PCB-00038620

STLCOPCB0018284

# ACTION CODES

## To Add To The Central Personnel/Payroll System

01 NEW HIRE
02 REHIRE
03 REHIRE FROM LAYOFF
04 TRANSFER FROM HOURLY PAYROLL
05 TRANSFER FROM OTHER PAYROLL SYSTEM (SUBSIDIARY, ASSOCIATED OR AFFILIATED COMPANY)

## To Return From Leave Of Absence With Pay

10 RETURN FROM ACADEMIC LOA WITH PAY
11 RETURN FROM MEDICAL LOA WITH PAY
12 RETURN FROM PERSONAL LOA WITH PAY
13 RN FROM POLITICAL OR CIVIC AFFAIRS LOA WITH PAY

## To Return From Leave Of Absence Without Pay

20 RETURN FROM ACADEMIC LOA WITHOUT PAY
21 RETURN FROM MEDICAL LOA WITHOUT PAY
22 RETURN FROM PERSONAL LOA WITHOUT PAY
23 RETURN FROM POLITICAL OR CIVIC AFFAIRS LOA WITHOUT PAY
24 RETURN FROM MATERNITY LOA WITHOUT PAY
25 RETURN FROM MILITARY LOA WITHOUT PAY

## To Take Action On People In The Central Personnel/Payroll System

30 CHANGE IN PERSONNEL AND/OR PAY STATUS
31 CHANGE JOB CLASSIFICATION
32 PROMOTION-UPWARD GRADE CHANGE
33 DEMOTION - DOWNWARD GRADE CHANGE
34 ISFER WITHIN A DIVISION OR CENTRAL DEPARTMENT
35 JSFER BETWEEN DIVISIONS OR STAFF DEPARTMENTS
36 CHANGE LOCATION
37 TRANSFER TO OTHER COMPANY IN THE SYSTEM
38 TRANSFER FROM OTHER COMPANY IN THE SYSTEM
39 CHANGE OTHER INFORMATION

## To Change Salary Rate – Chargeable Or Creditable

40 MERIT INCREASE
41 SPECIAL MERIT INCREASE
42 PROMOTIONAL INCREASE
43 PROGRESSION TO OR TOWARD MINIMUM
44 ECONOMIC OR GENERAL ADJUSTMENT
45 PROFESSIONAL STARTING RATE ADJUSTMENT
46 DEMERIT
47 DEMOTION

## To Change Salary Rate Or Shift – Non-chargeable Or Non-creditable

48 CHANGE IN BASE OR AMOUNT PAID FROM ST. LOUIS
49 MERIT INCREASE
50 SPECIAL MERIT INCREASE
51 PROMOTIONAL INCREASE
52 PROGRESSION TO OR TOWARD MINIMUM
53 ECONOMIC OR GENERAL ADJUSTMENT
54 PROFESSIONAL STARTING RATE ADJUSTMENT
55 SALARY CHANGE DUE TO CHANGE IN HOURS WORKED
56 INCREASE OR DECREASE ON REINSTATEMENT FROM LOA WITHOUT PAY
57 DISABILITY INCOME PLAN REDUCTION OR INCREASE
58 SPECIAL BASE OR INTERNATIONAL SERVICE PREMIUM CHANGE
59 SHIFT PREMIUM CHANGE

## To Place On Leave Of Absence With Pay

60 TO ACADEMIC LOA WITH PAY
61 TO MEDICAL LOA WITH PAY
62 TO PERSONAL LOA WITH PAY
63 TO POLITICAL OR CIVIC AFFAIRS LOA WITH PAY
64 CONTRACTURAL LOA WITH PAY
65 SEPARATION LOA WITH PAY

## To Place On Leave Of Absence Without Pay

70 TO ACADEMIC LOA WITHOUT PAY
71 TO MEDICAL LOA WITHOUT PAY
72 TO PERSONAL LOA WITHOUT PAY
73 TO POLITICAL OR CIVIC AFFAIRS LOA WITHOUT PAY
74 TO MATERNITY LOA WITHOUT PAY
75 TO MILITARY LOA WITHOUT PAY

## To Remove From The Central Personnel/Payroll System

80 TRANSFER TO HOURLY PAYROLL
81 LAYOFF
82 TRANSFER TO OTHER PAYROLL SYSTEM - DOMESTIC
83 " " " " " - NORTH AMERICAN
84 " " " " " - CENTRAL AMERICAN
85 " " " " " - SOUTH AMERICAN
86 " " " " " - EUROPEAN
87 " " " " " - ASIAN
88 " " " " " - AUSTRALIAN

90 NORMAL RETIREMENT
91 EARLY RETIREMENT - OWN REQUEST
92 EARLY RETIREMENT - COMPANY REQUEST
93 DEFERRED RETIREMENT
94 DISABILITY RETIREMENT
95 DEATH

98 TERMINATION - VOLUNTARY
99 TERMINATION - INVOLUNTARY

WATER_PCB-00038621

STLCOPCB0018285

Monsanto

ACHIEVEMENT AWARD DATA SHEET

| Name of Nominee | | | Location |
|---|---|---|---|
| Paul L. Wright | | | Creve Coeur |
| Company Unit or Staff Dept. | Division | Business Group | Department |
| Med. & Env. Hlth. | | | |
| Position Title | Salary Grade | Annual Salary | Date of Last Increase |
| Toxicology Manager | 19 | $31,800 | 2/1/76 |
| Performance | | Growth | Date Last Employe Review |
| | | | |

Type of Award (Select the award category from the opposite side of this sheet which most appropriately describes the award and enter the category and code below.)

| Award Category | Category Code Number |
|---|---|
| Technical - Accomplishment of significant results | 106 |

Describe the achievement and its significance to Monsanto below:

At a recent meeting in Creve Coeur, Glenn Schweitzer, head of the Office of Toxic Substances of EPA, offered some interesting comments. He observed that Monsanto's toxicologists were held in high regard at EPA. However, since it lacked an in-house toxicology facility, Monsanto as a company was not as highly regarded overall as duPont, Carbide, or Dow.

Dr. Wright's professional and personal characteristics have contributed significantly to Monsanto's image at EPA. He has shown unusual perseverance and dedication, frequently involving his own time, to review and interpret large volumes of data which he subsequently organized for presentation to EPA officials. Particularly noteworthy were his efforts on polychlorinated biphenyls (Aroclors) and chlorinated isocyanurates (ACL products). In the former instance, his excellent analysis and synthesis of widely scattered observations played a prominent role in forestalling EPA's promulgation of unrealistic regulations to limit discharges of polychlorinated biphenyls. EPA's proposed regulations would have precluded the use of these materials by Monsanto's customers. With respect to chlorinated isocyanurates, Dr. Wright has had several contacts with individual scientists at EPA to answer specific questions that they had raised or to inform them of the status of additional studies which had been undertaken.

Overall, by virtue of the qualities of leadership which Dr. Wright has displayed, he has made an important contribution to Monsanto's image at EPA. That favorable image will become increasingly important to Monsanto as the areas of interaction with EPA multiply.

| Recommended By: | Date | Award Amount Recommended: | Approved By: | Date | Award amount approved for payment: |
|---|---|---|---|---|---|
| [signature] | 16 July '76 | | [signature] | 7/27 3/4/77 | 7/1/77 |

G-2532 (Rev. 10/74)

WATER_PCB-00038622

# EXHIBIT J

Monsanto

APR 2[illegible] 1970

OM (NAME & LOCATION) St. Louis - General Offices

DATE : April 21, 1970

SUBJECT

REFERENCE : PCB's

TO : FILE

cc: J. R. Eck
T. K. Smith, Jr.
H. L. Minckler
C. J. Smith
~~R. E. Kelly~~/E. P. Wheeler
H. S. Bergen
J. E. Springgate
W. B. Papageorge
Sam Pickard, Wash., D.C.

REPORT ON MEETING WITH
CONGRESSMAN WM. F. RYAN (DEM.)
20th DISTRICT - NEW YORK

Washington, D.C., April 16, 1970

Sam Pickard and I met with Congressman Ryan this afternoon. We told Mr. Ryan that the purpose of our visit was to enable him to raise any questions he might have in relation to Monsanto's involvement in the manufacture of PCB's and also we hoped that he would give us an opportunity to clarify some of the points which he had made during his press conference. He explained that he was extremely short of time but he was quite willing to discuss the situation with us, emphasizing that he hoped that he would still receive a formal response to his letter to Mr. Bock. We assured him that this would be replied to in due course.

We were impressed with Ryan's apparent understanding of the problem although he disclaimed any abilities in the scientific area. His questions led us to the conclusion that at his press conference he was not simply reading something that someone else had written for him. He assured us that on at least two occasions that his total interest in the matter was to safeguard the health of the public and we confirmed that we also had a similar concern.

The following is my recollection of the issues that were raised by Ryan and ourselves.

1. Referring to his press release, we explored the question of the toxicity of Aroclors in more detail. We indicated to him that we were extremely concerned that the stories in the press would cause undue concern in the public mind. He was advised that based on the work we have done on toxicity of the Aroclors we believe these materials are only mildly toxic and compare favorably with many other industrial chemicals. We pointed out that the information he had given to the press obviously came from one of our technical bulletins and was extracted from a standard warning issued to operatives processing Aroclors in large quantities and usually at high temperatures. We indicated that any PCB's currently being found in the environment were at extremely low levels and there was absolutely no danger to the health of the public. Ryan

DSW 526533

IN 10 REV 11-65

108

explored this subject in more detail and was particularly interested in the health of our own operatives who were manufacturing Aroclors on a continuing basis. We told him that we had been producing Aroclors for close to 40 years without any serious problems to the health of our operatives.

2. We advised Ryan that his implication that all Aroclors could be classified as PCB's was erroneous. We endeavored to explain that only a certain number of our Aroclors fall into this category and we use the Aroclor trademark for other materials as well. He appeared genuinely concerned that he had made an error here and this point was discussed at some length. We believe that we helped to clarify his mind. It was difficult to get across the point that the PCB's so far found in the environment were those containing five and six chlorines only and some progress was made. This subject should be pursued at any future meeting.

3. Ryan repeated his request that Monsanto should disclose their total manufacture of PCB's both in the United States and in the U.K. We pointed out that it was not normal for manufacturers to disclose such information and before we could agree to his request we would have to receive a guarantee that this information would be treated as strictly confidential by any government agency to whom the details were given. He was not too pleased with this suggestion and we did not pursue the subject further.

4. Ryan then turned to the subject of our disclosing the names of manufacturers making products containing PCB's and requesting that all these products be labeled accordingly. We pointed out that it was not possible for Monsanto to disclose such information without approval from each individual customer and we also had no power to compel them to label their products as containing PCB's. He appreciated this point (referring to the fact that it might be necessary for the Federal Government to direct that the products be labeled in this way), but he did consider that Monsanto had a duty to do everything possible to persuade their customers to take such action voluntarily. Further discussion in this area made it clear that his primary concern here is that PCB's are being used in the manufacture of household products which are handled by the public and could have an adverse effect on their health. We confirmed again that in our opinion this was not a problem as the quantities of Aroclors used would not have any adverse effect on public health.

He returned to this subject several times listing such products as paints, inks, garment coatings, food packaging and flooring as products where problems may exist. We did everything possible to satisfy him that Aroclors were not used to any extent in these articles and that the major use for Aroclors was in the electrical

industry primarily in transformers where the material was operating in closed systems. We made the point that the use of Aroclors for this type of application was extremely important to the nation as a whole in view of their fire resistant properties and the fact that Aroclor-containing transformers are much smaller in size than transformers using other forms of coolant which made them particularly suitable for use in heavily built up areas such as New York.

5. Ryan raised the use of PCB's as pesticide carriers and we advised him we had already written to the USDA requesting that they refuse registration of pesticide formulations containing Aroclors. He was advised that current usage in this application was extremely small and like many recommendations made in our old bulletins no real market had developed.

6. Emissions from our manufacturing plants were queried by Ryan and we made it clear that it had been Monsanto's practice for many years to control such emissions from all of our manufacturing operations. We also advised him that in view of the current concern over PCB's in the environment we had made significant improvements and had a program in hand which would ensure that any such emissions were completely controlled.

Congressman Ryan's time was somewhat limited and the meeting was terminated after about 30 minutes. However, he expressed himself as being interested in a more detailed discussion with Monsanto emphasizing that he would like to have a scientist present with him and also underlining once again that his real interest here was in protecting the safety of the public. We gained the impression that Ryan was genuinely concerned that some of the statements he had made to the press were not strictly accurate and he appeared to be a man who wants to be certain that any statement he makes is true and factual.

We recommend that Mr. Bock reply to Congressman Ryan's letter giving definite answers to the questions raised, and also mentioning our willingness to hold further discussions at a suitable time.

JOHN MASON

gl

DSW 526535

# EXHIBIT K

WILLIAM F. RYAN
20TH DISTRICT, NEW YORK

COMMITTEES:
JUDICIARY
INTERIOR AND INSULAR AFFAIRS

# Congress of the United States
## House of Representatives
Washington, D.C. 20515

303 CANNON BUILDING
WASHINGTON, D.C. 20515
225-6616

DISTRICT OFFICE:
1040 ST. NICHOLAS AVENUE
(AT 163RD STREET)
NEW YORK, NEW YORK 10032
AD 4-6000

June 18, 1970

[redacted]
J. L. [redacted] (3)
R. S. Burgen ✓
J. E. Springate
E. L. Minckler
E. V. John
P. S. Park
Sam Pickard, Wash., D.C.

Mr. John Mason
Assistant General Manager
Monsanto Company
800 N. Lindbergh Boulevard
St. Louis, Missouri 63166

Dear Mr. Mason:

Despite your letter of April 28 I am most disturbed by the PCB danger and what I consider Monsanto's unwillingness to deal candidly with a dangerous situation.

While you specifically answer some questions I raised in my April 9 letter, you also chose to ignore others.

I asked Monsanto to fully cooperate with scientists doing independent research on PCBs. In return, I was assured that Monsanto scientists have met with others investigating the problem. The two are not the same. If Monsanto truly wanted outside opinions it would offer its findings to men like Dr. Robert Risebrough, who are widely known for the PCB research.

I asked that Monsanto state clearly whether during the manufacturing process Aroclor is released to the environment, and in what form and quantities, and what control measures are in effect or being developed.

Your letter said, "...we have stated clearly our total commitment to pollution abatement. Production of polychlorinated biphenyls came under even stricter scrutiny when it appeared as a possible environmental hazard. We have improved production techniques and are continually upgrading pollution abatement devices in our plants."

I consider that a vague reply. Surely you must know specifically what quantity of PCBs is escaping during the manufacturing process. And if you do not know, then certainly now is the time to findout.

MONS 087863

Mr. Mason June 18, 1970

You also avoided a specific reply to the question of what controls are now in effect. It is not enough for you to assure me that you are doing your best. I want to know how efficient and effective your best is.

In my letter I also asked for copies of five bulletins on PCB use mentioned in your Technical Bulletin O/PL-306. Actually, that technical bulletin referred to seven more. I understand that these bulletins offer additional information on use in resins, chlorinated rubber, emulsion adhesives, protective coatings, modifiers for polysulfides, fire-retarding plasticizers and wax compounds.

From these bulletins I hoped to learn how many uses have previously been suggested for this dangerous family of chemicals. Despite your assurances that PCBs are only used in closed systems, independent researchers have found them in the environment. I wonder if it surprises you to learn that Dr. Risebrough has discovered PCBs in paints bought at a Berkeley, California hardware store.

I again ask that you send me copies of the seven bulletins and any other material used to promote the sale and use of Aroclor.

I understand that you admit that during the early days of PCB use there were many suggested chemical uses that have since been discontinued. I wonder how much Monsanto has done to discourage continuation of these uses. Have you issued any notices recalling bulletins such as Technical Bulletin O/PL-306? Have you issued any warnings to all potential users of PCBs?

I again request that Monsanto inform me immediately of its annual production and sales figures for each year since 1940 for each of its two plants in the United States and its plant in England. These figures are necessary so that scientists can determine the extent to which PCBs are getting into the environment.

I again request that Monsanto release to the public a complete list of the uses of Aroclor, as well as the names of the products and their manufacturers, so that consumers can be aware of the presence of PCBs. I also ask for a list of all Monsanto products containing Aroclor. And Monsanto should make sure that all companies which use Aroclor label their products accordingly.

MONS 087864

Mr. Mason

June 18, 1970

In general, I would have appreciated a more specific reply to many of the questions I raised in my April 9 letter and hope that you will respond completely as soon as possible.

With kindest regards.

Sincerely,

William F. Ryan
Member of Congress

WFR/sp

MONS 087865

# EXHIBIT L

UNIVERSITY OF CALIFORNIA

BERKELEY • DAVIS • IRVINE • LOS ANGELES • RIVERSIDE • SAN DIEGO • SAN FRANCISCO

SANTA BARBARA • SANTA CRUZ

BODEGA MARINE LABORATORY

P. O. BOX 247
BODEGA BAY, CALIFORNIA 94923

October 25, 1971

Mr. W. B. Papageorge
Manager, Environmental Control
Monsanto Company
800 N. Lindbergh Boulevard
St. Louis, Missouri 63166

Dear Mr. Papageorge:

Public interest in PCB and the effects of environmental contamination by PCB has evidently increased since your visit to our laboratory in Berkeley.

Among the current research priorities of pollution ecologists is the determination of accumulation rates and mass balance equations of PCB in "sinks" such as the oceans. An approach to the formulation of a mass balance equation for the DDT compounds in the oceans was made in a recent publication of the National Academy of Sciences entitled "Chlorinated Hydrocarbons in the Marine Environment". The problem is now of crucial importance since it is possible that the amounts of PCB already manufactured and that will be released eventually into the environment are sufficient to increase PCB concentrations in marine fish of the coastal waters beyond acceptable limits.

In a letter of April 6, 1971 to Dr. S. G. Herman in response to his request for information about PCB production figures in the United States you wrote:
"Regarding your question of divulging sensitive marketing information, I regret I cannot help you. We believe the information would be of extremely limited value since the PCB problem is worldwide and there are producers in Germany, France, Italy, Spain, Japan, Poland, Czechoslovakia and Russia. We also believe we have a responsibility to our employees, shareholders and in some cases to our customers to preserve the business while taking responsible action to reduce PCB contamination".

We currently have some information about PCB production figures in Japan which are sufficiently high to indicate that knowledge of production figures in other industrial countries is badly needed if we are to predict future levels of oceanic contamination.

In addition to your responsibility to your employees, shareholders and customers, there is also an evident responsibility to all other persons who may eventually be affected by PCB contamination of the environment.

The Monsanto Company has made several commendable steps in recognizing the environmental hazards of PCB and in reducing the input of PCB to the environment. Contrary to the announcement by Monsanto, however, that PCB useage would be restricted to closed-system applications, PCB has continued to be used in various paper products until it was found that foods were becoming contaminated with PCB from recycled paper. Moreover,some of the closed systems have an evident tendency to leak.

If input of PCB into the environment could be substantially reduced so that steady state levels were considerably below those now found in our coastal waters, there would be no need to call for a complete ban on the use of these chemicals. But we can not adequately protect the environment unless it is possible to relate production figures and environmental input to contamination levels in fish and other components of the biosphere. To do this it is absolutely essential that production and use figures be made public.

I hope that Monsanto will agree to cooperate with the environmental science community to protect what is evidently the public interest.

Very truly yours,

Robert W. Risebrough
Associate Research Ecologist

cc: Professor E.D.Goldberg
Professor H.S.Olcott
Senator Gaylord Nelson
Senator George McGovern
Mr. Michael Palmer, Environmental Defense Fund

# EXHIBIT M

PCB

UNIVERSITY OF CALIFORNIA

SCRIPPS INSTITUTION OF OCEANOGRAPHY
LA JOLLA, CALIFORNIA 92037

November 10, 1971

Mr. W. B. Papageorge, Manager
Environmental Protection
Monsanto Industrial Chemicals Co.
800 N. Lindbergh Boulevard
St. Louis, Missouri 63166

RECEIVED
NOV 13 1971
OFFICE OF
SENATOR GAYLORD NELSON

Dear Mr. Papageorge:

I have received your letter of 4 November 1971 to Dr. Robert W. Risebrough, University of California, Bodega Bay, California 94923, repeating the stance of MONSANTO in refusing to release production and usage data of the PCB's to the scientific community. I consider the rationale in your letter both without substance and inadequate.

The world environmental scientific community over the past five years has well defined the seriousness of the escape of chlorinated hydrocarbons to our surroundings. The PCB's have been singled out as posing first-order threats on the bases of the amounts dispersed, their toxicities and their stability. At the present time, all evidences indicate they are the most widespread collective of synthetic organics in the environment. The PCB levels in marine fish and plankton now exceed those of DDT residues, according to the recent evidences from Woods Hole Oceanographic Laboratory and from the Bureau of Commercial Fisheries in La Jolla.

The world environmental scientific community has been most responsible in pursuing the PCB problem. I have served on national and international committees, both in the capacity as chairman and as member (FAO, NATO, National Academy of Sciences, National Research Council, UNESCO, etc.) and have been impressed by the desires of the scientists to determine where PCB's are leaking to the environment, what their toxicities are to organisms including man and the potential hazards to marine resources. Such studies often require both production and usage data of the PCB's.

The denial of such data to the scientists is the denial of their potential power to develop a clear and comprehensive understanding of the problems posed by present usages of these substances, an understanding upon which governments can act sensibly to protect their citizens. MONSANTO, in refusing to release this much needed data to the scientists, a group who can be a powerful resource to them, is in my opinion, playing god. They assume responsibility for insults rendered through the production and distribution of these chemicals. The world scientific community has defined the dangers; the substances have been implicated in the deaths of Japanese who ingested them.

Are you really serious when you keep this most important data privileged through the statement "our responsibilities should and do include not only consideration of our employees, shareholders and customers, but also consideration of all other persons who may eventually be affected by such contamination".

Sincerely,

Edward D. Goldberg
Professor of Chemistry

EDG:nl

cc: Dr. Robert W. Risebrough
Associate Research Ecologist
Bodega Marine Laboratory
University of California
P. O. Box 247
Bodega Bay, California 94923

The Honorable George McGovern
United States Senate
Washington, D. C. 20510

The Honorable Gaylord Nelson
United States Senate
Washington, D. C. 20510

Dr. H. S. Olcott
Professor, Marine Resources
College of Agriculture & Environmental Sciences
University of California, Davis
Davis, California 95616

Mr. Michael W. Palmer
Environmental Defense Fund
2728 Durant Avenue
Berkeley, California 94704

# EXHIBIT N

UNIVERSITY OF CALIFORNIA, DAVIS

BERKELEY • DAVIS • IRVINE • LOS ANGELES • RIVERSIDE • SAN DIEGO • SAN FRANCISCO

SANTA BARBARA • SANTA CRUZ

INSTITUTE OF MARINE RESOURCES
COLLEGE OF AGRICULTURAL AND
ENVIRONMENTAL SCIENCES

DAVIS, CALIFORNIA 95616

November 15, 1971

Dr. W. B. Papageorge, Manager
Environmental Protection
Monsanto Industrial Chemicals Co.
800 N. Lindbergh Boulevard
St. Louis, Missouri 63166

Dear Dr. Papageorge:

I appreciated receiving a copy of your letter of 4 November to Dr. Risebrough. Several questions, however, continue to bother me. Perhaps you can furnish some answers.

I assume it is true that the PCB contamination of fish meal that lead to problems with poultry and eggs on the east coast was due to a leak or leaks in the plant that made the fish meal. But has the presence of PCB's in poultry and eggs in Minnesota been accounted for?

If rice bran oil contaminated with PCB's caused "Yusho" disease in Japan, how can we be sure to avoid it in the future? Do you know whether it was indeed PCB or something else that caused it?

I think that the uneasiness suggested by the Risebrough and Goldberg letters stems from a feeling that Monsanto is not telling all that it knows - including production figures. In my opinion Monsanto could get a plus in PR if it would do so.

Best regards.

Very truly yours,

H. S. Olcott

H. S. Olcott
Professor, Marine Food Science

HSO:cfg
Risebrough

# EXHIBIT O

bcc: H. S. Bergen - B2SL
C. P. Cunningham - B2SA
W. B. Papageorge - B2NK

March 3, 1972

Mr. Paul DeFalco, Jr.
Regional Administrator
U.S. Environmental Protection Agency
Region IX
100 California Street
San Francisco, California 94111

Dear Mr. DeFalco:

I have been asked to respond to your letter addressed to Mr. E. J. Bock, asking for certain information regarding sales of polychlorinated biphenyls by Monsanto and Central Solvents and Chemicals in the Los Angeles County area. I know that you have discussed this by telephone with Mr. W. B. Papageorge and I have reviewed the situation with him.

It has always been Monsanto's policy not to divulge the names of our customers for the products we make, nor the quantities of products these customers purchase. We consider this to be proprietary information and therefore hold it confidential. Consequently we do not feel free to comply with your request for data on customer names and quantities purchased.

On the other hand, last November we did release to governmental agencies, including the EPA, Monsanto's total production and sales figures on PCB's for the years 1960 through 1971. These statistics have been released publicly and earlier this year we discussed them in detail with members of the scientific

DSW 369806

community and with representatives of the Washington multi-agency PCB task force of which EPA is a member. For your ready reference I am enclosing a copy of this information.

We certainly share your concern and desire to control the discharge of PCB's into the environment. It is because of this concern that we implemented a program of self-imposed curtailment of sales of these products so that now we are only offering continuing supplies for closed system dielectric applications where the potential danger of environmental contamination is carefully controlled.

Furthermore, as another step in safeguarding the environment we have informed all customers of PCB materials of the potential dangers should these materials escape and have strongly urged them to take every precaution to prevent losses through spills, usage, leakage, disposal, vaporization or otherwise.

I regret we cannot comply with your request for customer information but if we can be of assistance to you in other ways we will be glad to visit you or your designees to discuss the PCB situation further.

Sincerely,

W. R. Corey, Director
Functional Product Groups

/jf

Enclosure

cc: Mr. Charles H. Sommer/Monsanto

DSW 369807

# EXHIBIT P

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF WASHINGTON

| | |
|---|---|
| CITY OF SPOKANE, a municipal corporation located in the County of Spokane, State of Washington, Plaintiff, v. MONSANTO COMPANY, et al., Defendants. | Case No.: 2:15-cv-00201-SMJ |

TUESDAY, JANUARY 7, 2020

- - -

Videotaped 30(b)(6) deposition of Robert Kaley, held at the offices of CAPES, SOKOL, GOODMAN & SARACHAN, P.C., 7701 Forsyth Boulevard, 12th Floor, St. Louis, Missouri, commencing at 8:58 a.m., on the above date, before Carrie A. Campbell, Registered Diplomate Reporter, Certified Realtime Reporter, Illinois, California & Texas Certified Shorthand Reporter, Missouri & Kansas Certified Court Reporter.

- - -

GOLKOW LITIGATION SERVICES
877.370.3377 ph- 917.591.5672 fax
deps@golkow.com

QUESTIONS BY MS. EVANGELISTI:

**Q. I've handed you Deposition Exhibit 12. Can you identify that for the record, please?**

A. Yes. It's a letter from a person, Henry Strand, at Rising & Strand in London, to Mr. David Wood at Monsanto, dated November 28, 1966.

**Q. And in this -- you've seen this before?**

A. I have.

**Q. And in this document -- now, first of all, who is Henry Strand at Rising & Strand?**

A. He is Mr. Strand -- I'm sorry, but I don't really know. I think this is a public relations firm, but it could be a law firm. I don't really know. But anyway, he's obviously one of the -- I assume he's one of the principals of this Rising & Strand firm.

**Q. Okay. So this is some sort of firm in -- do we know where they --**

A. I always thought it was London, but I don't know what the Aktiebolag means,

so now I don't really know.

**Q. Oh, it says Stockholm.**

A. There you go.

**Q. Right?**

A. That would be it.

**Q. Okay. So an individual from Rising & Strand in Stockholm -- we don't know what kind of company it is, but it is reporting to Mr. Wood of Monsanto Europe in Belgium regarding Soren Jensen's findings in Sweden, correct?**

A. That's correct.

**Q. And in this document he is reporting that Soren Jensen had found what he determined to be PCBs accumulating in organs of animals, correct?**

A. Yes, that's -- excuse me. That's how the document reads, yes.

**Q. And separate from the document, Soren Jensen was analyzing -- looking at DDT in the environment, and he was finding unknown peaks at that time, correct?**

A. Yes.

**Q. And he was able to determine eventually that those peaks he identified as**

being PCBs, correct?
A. Yes.
Q. And he was reporting that in his mind the compounds that he was identifying as PCBs were related to DDT and equally poisonous, correct?
A. That's what the document says, yes.
Q. And this was being reported to Monsanto Brussels in 1966?
A. That's correct.
Q. And Soren Jensen had found what he determined to be PCBs in salmon and in pike and in sea eagles living on fish, correct?
A. That's what this letter reports, yes.
Q. And this was what was reported to Monsanto, correct?
A. Yes.
Q. Jensen had found it in the surface of the needles of the fir trees and in the air, correct?
A. That's what it says.
Q. And it was -- he found it in

the hair of his five-month-old child; is that correct?

A. That's what he reported, yes.

Q. And this was reported to Monsanto in 1966?

A. Yes.

Q. He also was reporting that PCB is broken down considerably slower than DDT and, quote, "gives rise to damage of liver and skin," correct?

MR. MILLER: Let me object to the form. It's vague and ambiguous as to who "he" was when you say "he was reporting."

MS. EVANGELISTI: I'll start -- that's a fair objection.

QUESTIONS BY MS. EVANGELISTI:

Q. In this document it is being reported to Monsanto Europe that the Swedish daily paper was reporting about Soren Jensen's findings, and it was being reported that, quote, "PCB is broken down considerably slower than DDT and gives rise to the damage of liver and skin," end quote, correct?

A. That's what this letter says,

that the reporter writing the article in the newspaper wrote, yes.

**Q. Okay.**

A. There's nothing in Jensen's article that I know of that said any of those things, but that's what the newspaper reporter said.

**Q. And this newspaper in Sweden had reported that the PCBs were equally common in nature as chlorinated hydrocarbons of the type of DDT, DDE and Lindane, correct?**

A. That's what this translation says, yes.

**Q. And the translation reported that even fish in Lapland contained PCBs, correct?**

A. Yes, that's what it reads.

**Q. It was reported in this article that the PCBs were also found in Mr. Jensen -- the hair of Mr. Jensen's wife, but also that the five-month-old girl had more PCBs in her hair than of her brothers and sisters of age 3 to 6 years, correct?**

MR. MILLER: Object to the form.

THE WITNESS: That's what the translation of this article says.

QUESTIONS BY MS. EVANGELISTI:

**Q. And the hypothesis was that the girl had gotten PCBs via the mother's milk, correct?**

MR. MILLER: Object to the form.

THE WITNESS: Again, that's what the article says, yes.

QUESTIONS BY MS. EVANGELISTI:

**Q. And this article that was then reported to Monsanto indicated that Jensen had examined a whole collection of sea eagles in a state museum going back to 1880 and determined that PCBs were only in birds from 1944 on and were not in the birds from 1944 and before, correct?**

A. That is how it reads, yes.

**Q. Now, Mr. Strand then reported to Mr. Wood of Monsanto, last page, quote, "I suppose there is no doubt that what has been termed 'polychlorinated biphenyl' is equal to Aroclor."**

**Correct?**

A. That's what he wrote in this paper -- or in this letter, yes.

**Q. Okay. And then the last two sentences of that paragraph state, quote, "The problem in some cases, of course, may be the disposal of used material. I understand that there hardly exists a convenient method of destroying Aroclor and that possibly burying unusable material may be the only answer."**

**Correct?**

A. That's how it reads, yes.

**Q. So the issue of disposal of Aroclors was brought to Monsanto's attention by November of 1966, correct?**

A. By whoever Mr. Strand was, yes. That's his view of the situation.

**Q. And there was an understanding at that time by Mr. Strand that there was not a convenient method for destroying Aroclor, correct?**

A. That's --

MR. MILLER: Hold on. Object to the form.

THE WITNESS: That was his

understanding.

QUESTIONS BY MS. EVANGELISTI:

**Q. And was that Monsanto's understanding in that time frame, 1966, that there was not a convenient method of destroying Aroclor?**

A. I can't -- I don't know for sure.

(Kaley 30(b)(6) Exhibit 13 marked for identification.)

QUESTIONS BY MS. EVANGELISTI:

**Q. Handing you Exhibit 13. Now, this document is a communication from Gunnar Widmark to Mr. Ford at Monsanto, dated December 29, 1966, correct?**

A. Yes.

**Q. Tell us who Gunnar Widmark was.**

A. He was a co-researcher with Dr. Jensen in Sweden.

**Q. And who was Mr. Ford at that time?**

A. I'm not sure.

**Q. And he's reporting, Mr. Widmark is reporting, to Mr. Ford at Monsanto in**

**Q. Okay. I'll take it back.**
**What was it ultimately determined to have been causing the fish kills in Snow Creek and in Choccolocco Creek?**
A. They never -- they never determined what was eventually the cause.
**Q. What exhibit did I just hand you?**
A. It's not marked, so it probably should have been 14.
MR. MILLER: It was.
MS. EVANGELISTI: I gave you -- did I -- oh, it was 14. I just didn't mark it.
(Kaley 30(b)(6) Exhibit 15 marked for identification.)
QUESTIONS BY MS. EVANGELISTI:
**Q. Handing you Exhibit 15. And Exhibit 15 is an internal communication from D. Wood at -- in Belgium, Monsanto Belgium, to G.R. Buchanan, Monsanto, St. Louis, again discussing Soren Jensen's findings, correct?**
A. Yes. Excuse me, yes.
**Q. And he reports, quote, "To**

A. Right.

**Q. So Monsanto's reaching out to Jensen and talking to him about what information Jensen might publish about his work on PCBs?**

A. So that others -- yeah, so that others reading that work would have specific information on which to base their comments, not just generalized information.

**Q. And on the next page, Mr. Wood points out that Monsanto should make available to Jensen quantities of pure isomers of PCBs because that would be helpful in gaining Jensen's further support, correct?**

A. Right, which they did.

**Q. And then the last paragraph, again, it states, quote, "As you will see from the press release, one of the major points that is made is the difficulty in disposing of waste chlorinated diphenyls. And again, I must mention that constructive recommendations for the safe disposal of our materials would be most helpful."**

**Do you see that reference?**

A. Yes.

**Q. So, again, the issue of disposing of PCB waste was being raised by D. Wood to various individuals at Monsanto, correct?**

A. Yes.

**Q. What did Monsanto do at this time in the beginning of 1967 to address the concern about the difficulty of disposing of waste PCBs?**

A. At that specific point in time, I don't know, but certainly within a fairly short period of time, months, maybe a year, they started considering what was happening at their plants and making recommendations to some of their customers.

**Q. I'm talking about disposal of PCBs, not what was going on at plants.**

A. Oh, you mean disposal of customers? Consumers?

**Q. So he -- Wood is referencing the disposal of waste chlorinated diphenyls.**

A. Yes.

**Q. What does that mean to you?**

A. Primarily plant waste, I would think.

were.

Q. And again, this was after the Riseborough presentation?

A. Yes.

Q. And the issue of PCBs being in the environment, generally in mainstream media, this didn't come about until after Riseborough's presentation with his findings, correct?

A. I'm not sure when the first mainstream media, whenever that was, was. Certainly the San Francisco Chronicle article would have been one. Whether there was something before that, I don't recall.

Q. Okay. Well, I think I have documents later, but...

Okay. And we discussed earlier that in 1966 David Wood was expressing concern about disposal of PCB waste, correct?

MR. MILLER: Object to the form of the question. The document speaks for itself.

THE WITNESS: I believe that's correct based on that document, yes.

**Q. And I asked you what that referred to, and I thought you told me that referred to effluent from manufacturing facilities.**

A. That -- I think I do recall saying that, and that would be one component --

**Q. Okay.**

A. -- of it. And I don't know specifically what he was referring to, but the disposal of PCBs in products to which they had been added in open uses --

**Q. Is also --**

A. -- would also be a component of that.

**Q. Okay. So in the 1966 time frame, Monsanto was aware that PCB contamination could be as a result of disposal of PCB waste, first, in terms of effluent from facilities, correct?**

A. Yes.

**Q. And also from disposal of products which may contain PCBs used in open uses, correct?**

A. Yes.

Q. Okay. So going back to this document which is Exhibit 34, Mr. Richard also states, if you look at the second page, quote, "We cannot easily control hydraulic fluid losses in small plants. It will still be more difficult to control other end uses such as cutting oils, adhesives, plastics and NCR paper. In those applications, exposure to consumers is greater and the disposal problem becomes complex."

Do you see that reference?

A. Yes.

Q. So there's an acknowledgement in March of 1969 that environmental contamination can also be caused by small leaks of hydraulic fluid, small losses in small plants, correct?

A. Yes.

Q. And also, there's a recognition that PCBs being used in NCR paper could be a source of contamination to the environment.

This is in March of 1969, correct?

A. Yes.

Q. Okay. So tell us how PCBs are

manufacturing facilities.

**Q. Okay.**

A. And the PCB waste from the manufacturing facilities would not be flammable, so they wouldn't have been burned in the open.

**Q. Okay. Would you agree that -- I'm going to move on.**

**What was Monsanto's knowledge in the mid-1960s regarding how its customers disposed of PCB waste?**

MR. MILLER: Objection. Vague and ambiguous.

THE WITNESS: I don't know what specific information they had.

QUESTIONS BY MS. EVANGELISTI:

**Q. Do you know if they did any investigation to determine how their customers were disposing of PCB waste?**

A. Not that I'm aware of.

**Q. Did Monsanto in the mid-'60s make a determination, or attempt to make a determination, to see how open-use products containing PCBs were being disposed at the end of their useful life?**

QUESTIONS BY MS. EVANGELISTI:

**Q. I'm handing you Exhibit 37. And you recognize this document, correct?**

A. Yes.

**Q. Can you identify it for the record?**

A. Yes. It's a report by a consultant from the University of Illinois, Robert Metcalf, who Monsanto had engaged to take a look at the PCB issues. It's entitled "Report and comments on meeting on chlorinated biphenyls in the environment and at Industrial Bio-Test Laboratories of Chicago, dated March 21, 1969."

**Q. So there was a meeting with Metcalf and Monsanto individuals and also individuals from IBT on or about March 21, 1969?**

A. I believe that's correct. I think that's the date of the meeting rather than the date of the report, but probably doesn't matter.

**Q. And the report -- right. And the report --**

A. You're right. I didn't see that. You're correct. April was when the report was written.

**Q. So there was a meeting on or about March 21, 1969, with Robert Metcalf, the consultant you just described, individuals from Monsanto and individuals from IBT to discuss chlorinated biphenyls, correct?**

A. Yes.

**Q. And this report of Metcalf is dated April 2, 1969?**

A. That's correct.

**Q. Other than what's memorialized in this memo, do you have any other information about what went on at the meeting and what information was given to Metcalf?**

A. I do not.

**Q. And Metcalf, is he not a -- I don't know the technical word. Wasn't he a bug doctor?**

A. I think he was an entomologist.

**Q. An entomologist?**

A. I believe that's correct.

**Q. So what was his expertise that**

**Monsanto would seek his assistance in assessing a PCB issue?**

A. Well, I mean, he was a biologist, and so he would have some broader understanding rather than just insects, so I think they presumably were aware of his potential usefulness as a consultant on broader issues.

**Q. So what we do know is that Monsanto provided information to him in some form, and then he came to some conclusions, correct?**

A. Yes.

**Q. And the conclusions are memorialized in this document?**

A. Yes.

**Q. And doc -- Metcalf concludes in April of 1969, based on information provided to him by Monsanto, that 40 million pounds annually of PCBs is stated to be used as plasticizers, hydraulic fluid, adhesives and in carbon paper, and from this amount, a very substantial percentage must escape into the environment of waste, correct? As waste, correct?**

A. Okay, I'm with you now. That's what he wrote.

**Q. Okay. And he also opined that because of the apparent high stability of PCB, amounts entering the environment would be degraded very slowly, and it seems possible that at least 10 million pounds annually may become environmental contaminants, correct?**

A. That's his estimation, yes.

**Q. And this is all based on information presumably that Monsanto provided to him about what they knew about PCBs?**

A. It's his interpretation of that information.

**Q. And that's what he was hired to do by Monsanto?**

A. I'm not sure what he was hired to do, but that's what he obviously did.

I don't know -- I don't know what -- I don't know what his charge was, whether it was to make these kinds of calculations or not, but he did do them and report them.

**Q. He makes reference to -- well,**

he states, "Because of the apparent stability of these compounds, most of this amount may still be circulating in the global ecosystem, and this is suggested by the levels reported by Holmes and Riseborough in animal tissues which are quite comparable to those found for DDT."

Do you see that reference?

A. That's what he wrote, yes.

Q. Do you know anything about the Holmes report from 1967 to which he refers?

A. Yes, it's a report of PCBs in the British environment. I don't know the specific location. It's one of the earlier reports after Jensen.

Q. What other, if any, analysis of the presence of PCBs in the environment existed before Jensen?

A. I'm not aware of any.

Q. And after Jensen, you have Holmes and Riseborough, correct?

A. Yes.

Q. Are there any others that you're aware of prior to Riseborough?

A. There are others, yes.

**Q. Where was PCBs being found, other than as reflected by Jensen and Holmes?**

A. My recollection is that -- there were few reports, but my recollection is most of them were in the UK.

**Q. That's where the scientists were that were doing the studies?**

A. That's where the scientists were. I think that's also where the samples were taken. That's my recollection.

**Q. Okay. And Metcalf also concluded on the second page that the environmental contamination described for PCB is due to waste amounts of these compounds, correct?**

A. He said that's quite reasonable to conclude, yes.

**Q. And he also opined that there is an important environmental quality problem involved in waste of PCBs, correct?**

A. That's what he wrote, yes.

Well, that the evidence suggests that there is.

**Q. Now, he goes on to talk about the IBT tests that are planned, correct?**

# EXHIBIT Q

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF WASHINGTON

| | | |
|---|---|---|
| CITY OF SPOKANE, a municipal corporation located in the County of Spokane, State of Washington, | ) | |
| Plaintiff, | ) | Case No.: 2:15-cv-00201-SMJ |
| v. | ) | |
| MONSANTO COMPANY, et al., | ) | |
| Defendants. | ) | |

WEDNESDAY, JANUARY 8, 2020

- - -

Videotaped 30(b)(6) deposition of Robert Kaley, Volume II, held at the offices of CAPES, SOKOL, GOODMAN & SARACHAN, P.C., 7701 Forsyth Boulevard, 12th Floor, St. Louis, Missouri, commencing at 9:57 a.m., on the above date, before Carrie A. Campbell, Registered Diplomate Reporter, Certified Realtime Reporter, Illinois, California & Texas Certified Shorthand Reporter, Missouri & Kansas Certified Court Reporter.

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made its way to the technical and trade press. As far as the general press, I don't have a specific recollection.

QUESTIONS BY MS. EVANGELISTI:

Q. Okay. Okay. Looking at Monsanto's statement dated March 3, 1969, the second page of it, which ends -- your MONS document, do you have the MONS Bates number?

A. Yes.

Q. It ends in 07 -- I'm sorry, 097502.

A. Yes.

Q. It reads, quote, "Several years ago, two Swedish scientists at Stockholm University's Institution of Analytical Chemistry, Professor Gunnar Widmark and Soren Jensen, reported that they had identified the other substances which were appearing during analysis of chlorinated pesticide residues. They said some of the materials were polychlorinated biphenyl, or PCB. The amount reported was in the parts per billion range or less."

Do you see that reference?

A. Yes.
Q. First of all, by this time it had been confirmed by Monsanto that the materials that had been found were, in fact, PCBs, correct?
A. Certainly what Jensen was calling PCBs were PCBs, yes.
Q. Okay. And also Jensen was finding PCBs in the parts per million range, not just part per billion range or less, correct?
A. I believe that is correct without looking at the data, but I believe that is correct, yes.
Q. Okay. And then it says, "Since PCBs are not broadcast or spread around the land as are pesticides, the scientists theorize that the source must be the industrial waste of PCB users."
Do you see that reference?
A. I do.
Q. Now, there is evidence that truckloads of PCBs were in fact spread around the land as pesticides -- as chemicals used along with pesticides, correct?

MR. MILLER: Object to the form.

THE WITNESS: No.

QUESTIONS BY MS. EVANGELISTI:

Q. Which part did I get wrong?

A. I believe that the truckloads reference is to polychlorinated terphenyls, not polychlorinated biphenyls.

Q. But regardless, there is evidence that quantities of PCBs were in fact utilized along with pesticides, correct?

A. Some small amounts were certainly, yes.

Q. Then it goes on to discuss Riseborough's more recent work identifying PCBs.

Do you see that reference?

A. Yes.

Q. And then it says, quote, "The conclusions of these scientists are puzzling from several aspects. Polychlorinated biphenyls are stable chemical compounds which are essentially insoluble in water. Their use does not make them easily released into the natural environment."

Do you see that reference?

A. Yes.

Q. Now, by that time, Monsanto had already done their study on NCR paper which determined that when burned, the PCBs would escape and there was a potential for widespread atmospheric contamination by the PCBs, correct?

A. I don't know about why it spread, but certainly the potential for atmospheric release of PCBs had been demonstrated in the laboratory.

Q. And during that time -- prior to that time, Monsanto at their own facilities were in fact sewering the waste at their manufacturing facility, meaning the PCB waste was going directly into the water system, correct?

A. There were discharges -- the PCB waste, per se, were being landfilled. There were discharges into water systems that had some amounts of PCBs in them, mostly hydrochloric acid that contained some PCBs.

Q. And Monsanto also knew that their customers were similarly disposing of

their waste in the same way as Monsanto was, correct?

A. I think I said yesterday, I don't know what the customers were doing or what Monsanto at that point in time knew what the customers were doing. I don't know.

Q. Okay.

A. There was speculation around that, but I don't know if they know -- knew.

Q. And Monsanto also knew that there were small releases during the use -- and there was a document we discussed yesterday; I can pull it out if you'd like.

Monsanto was aware that small releases from use of PCBs as industrial fluids were occurring that could not be controlled, correct?

MR. MILLER: Let me object to the form of the question with respect to the commentary.

THE WITNESS: There was a document -- I don't know the date, I don't know the date in relation to this particularly -- but around that time that did discuss potential

releases, yes.

QUESTIONS BY MS. EVANGELISTI:

Q. So Monsanto did have knowledge of ways that PCBs were being released into the natural environment; would you agree?

A. They had some information, yes.

Q. So it goes on to say, "A principal market for PCB is in electrical applications where they're used as insulated fluids for transformers and capacitors." And then it talks about "in this use, the chemical is completely sealed in metal containers."

Do you see that reference?

A. Yes.

Q. And then it says, "Another market is for heat transfer applications where the PCB fluid functions in a closed system."

Do you see that reference?

A. Yes.

Q. And Monsanto was aware that leaks occurred from heat transfer applications routinely, correct?

MR. MILLER: Object to the form

of the question.

THE WITNESS: They were aware there was potential for leaks. Whether those leaks resulted in environmental levels of PCBs, I don't know that they were aware of that particularly.

QUESTIONS BY MS. EVANGELISTI:

Q. And then it makes reference to "in the functional fluids market, we have carried out a program for several years for the reclamation of used PCBs to reuse these valuable materials."

Do you see that reference?

A. Yes.

Q. Can you tell us about this program?

A. I don't know the timing. Certainly we discussed a little bit yesterday the use of Findett and other reclamation facilities for PCBs, but I don't know -- I can't verify that the program had been in existence for several years, as I sit here.

Q. Okay. So documents discussing Findett would refer to that program, and what

reclamation of used PCB program?

A. Not in this time frame, no.

Q. Okay.

MR. MILLER: Show my objection to the form of that question.

QUESTIONS BY MS. EVANGELISTI:

Q. And then it goes on to say, "PCBs are also used in several plastic-type applications. Here the chemical is incorporated into the polymer as an integral part of the solid material. This applies whether the polymer is used as an adhesive and elastomer or a surface coating."

Do you see that reference?

A. Yes.

Q. Now, Monsanto in the mid-'50s had done a number of studies where they determined -- or looked into the issue of PCBs emanating out of paint where PCBs were used as a plasticizer, correct?

MR. MILLER: Object to the form.

THE WITNESS: They had done experimental studies on latex paints in Great Britain, and such paints were

not used in the United States. They had done those under fairly severe laboratory conditions.

QUESTIONS BY MS. EVANGELISTI:

Q. And there was awareness, though, as a result of those studies that when PCB was used as a plasticizer in the paint, as you described, PCBs were coming out of the paint even after a month, correct?

MR. MILLER: Object -- hold on.

THE WITNESS: I'm sorry.

MR. MILLER: Object to the form of the question. It's vague and ambiguous.

THE WITNESS: That's what the document reports.

QUESTIONS BY MS. EVANGELISTI:

Q. And nowhere in this statement does Monsanto discuss the fact that PCBs are also used in conjunction with the manufacture of NCR paper, correct?

A. I don't recall seeing that in here, so I think you are correct.

Q. And other than use of PCBs in electrical fluid, NCR was Monsanto's biggest

customer in terms of sales of PCB for use in products; would you agree?

MR. MILLER: Object to the form. It's vague in terms of time.

THE WITNESS: I believe that is correct.

QUESTIONS BY MS. EVANGELISTI:

Q. Then it goes on in that paragraph. At the end it says, quote, "PCBs are not hazardous when properly handled and used. During more than 30 years of US production and use, cases of any toxic effect have been extremely rare, and then only where the simple precautions recommended for use were not followed."

Do you see that reference?

A. Yes.

Q. And in our last deposition, I went through a number of documents, and we had identified by that time over 20 instances where customers had complained to Monsanto that their employers -- their employees had been having negative effects as a result of using PCB in their work, correct?

MR. MILLER: Object to the

form. Vague.

THE WITNESS: There were documents that we discussed, some of which may have been related to allegations of PCB effects, some of which didn't, but I think I made the point then that 20 or 30 cases over the lifetime of that product, I would say, are extremely rare.

QUESTIONS BY MS. EVANGELISTI:

Q. Well, those were only the 20 that were memorialized in documentation that I was able to identify.

So would you agree that there likely were more that were just not memorialized?

MR. MILLER: Object to the form of the question. Calls for speculation and the preface is -- or the colloquy is objectionable.

THE WITNESS: I have no idea.

QUESTIONS BY MS. EVANGELISTI:

Q. Then it makes a reference to, quote, "To our knowledge, polychlorinated biphenyls are not sprayed or dusted on crops,

woodlands or other areas as are pesticides," end quote.

As we discussed earlier, there was some use of PCBs being sprayed onto crops in other areas, correct?

MR. MILLER: Object to the form. Vague.

THE WITNESS: No, the PCBs were used on solid surfaces. I'm not aware of documentation of use on crops.

QUESTIONS BY MS. EVANGELISTI:

Q. Well, we'll move on from that because the testimony is what it is.

A. Okay.

MR. MILLER: Object to the form.

QUESTIONS BY MS. EVANGELISTI:

Q. Then it says, "It is therefore not only puzzling but extremely difficult to conceive how commercially produced PCB can show up in wildlife in the quantities reported."

Do you see that reference?

A. I do.

Q. Now, Metcalf, who is Monsanto's

consultant, with information provided to him by Monsanto, certainly was able to come up with his conclusion as how and why the PCBs were getting out into the wildlife in the quantities reported, correct?

MR. MILLER: Object to the form. The document speaks for itself.

THE WITNESS: He reported in the document his estimations of possible amounts. I don't know that that addresses the levels in the animals, but -- or in the wildlife, but he did certainly make calculations.

QUESTIONS BY MS. EVANGELISTI:

Q. And none of that information was contained within the statement?

MR. MILLER: Object to the form of the question.

THE WITNESS: Not that I see, no.

QUESTIONS BY MS. EVANGELISTI:

Q. And then it says, quote, "This raises the question whether the substances identified in the Swedish work and now in

California are actually PCBs or whether they are compounds which due to the metabolism of their materials in the marine environment appear to be PCBs."

Do you see that reference?

A. I do.

Q. Now, internally Monsanto had admitted by the end of '67 that what Jensen was finding was in fact PCBs, correct?

A. That's correct.

MR. MILLER: Object to the form.

QUESTIONS BY MS. EVANGELISTI:

Q. And with respect to Riseborough's findings, while Monsanto may have had doubts of certain opinions Riseborough had, there was no doubt that what he had found was in fact PCBs, correct?

MR. MILLER: Objection. Compound.

THE WITNESS: It's hard for me to know that one way or the other. There are certainly other documents that say that we need to confirm what he was finding.

Q. Okay. So PCTs were in fact able to be used as part of a spraying?

A. Yeah, I think there are obviously -- I'm sure you've seen the use of spraying solid surfaces in a barn in an advertisement. So they were in formulations. They weren't just PCT plus pesticide.

(Kaley 30(b)(6) Exhibit 39 marked for identification.)

QUESTIONS BY MS. EVANGELISTI:

Q. I'm going to hand you Exhibit 39.

Have you seen this document before?

A. I have, but I'd like to review it, please.

All right.

Q. And can you identify this Exhibit 39, please?

A. It's a letter to a Mrs. Arbogast dated March 13, 1969, from Mr. Ford, who this confirms is in the public relations department.

Q. And in this -- presumably Mr. Ford, who this letter identifies as being

the manager, divisional public relations, correct?

A. Yes.

Q. And he's responding to Ms. Arbogast, who presumably wrote a letter to Monsanto after having read the San Francisco Chronicle about Riseborough's findings, correct?

A. His -- that was Mr. Ford's presumption, yes.

Q. And in this letter, Mr. Ford presents to -- presumably this woman is just a member of the general public writing to Monsanto?

A. I have no knowledge, but I believe that might be correct.

Q. And he provides some additional details to her regarding -- or in response to the article, correct?

A. I don't know whether they're additional, but there are numbered statements in here.

Q. And one of them is he represents that PCBs -- PCB is not a highly toxic chemical, correct?

A. Yes.
Q. And he reports that Monsanto has doubt as to whether Riseborough identified the materials correctly, correct?
A. That's what he says, yes.
Q. And then it says, quote, "It seems like he went on an earlier identification made by two Swedish scientists using different sources."
Do you see that reference?
A. I do.
Q. Do you know what Ford was referring to that the "two Swedish scientists using different sources"?
A. No, I don't.
Q. And then it says, "The research work in Sweden reported traces of PCB in wildlife approaching that of DDT. Frankly, we are very puzzled by this report. PCBs are not spread around the land as are pesticides."
Do you see that reference?
A. Yes.
Q. And does it appear to you that Ford is disclaiming that what the Swedish

scientists were finding was PCBs?

MR. MILLER: Object to the form.

THE WITNESS: In this particular paragraph, I don't read that into it necessarily. He says he's puzzled, but I don't see that he's saying it isn't.

QUESTIONS BY MS. EVANGELISTI:

Q. And again, going through the markets for PCBs, he identifies in this letter to Ms. Arbogast that PCBs are found in electrical applications, sealed in metal containers, and also references PCB as a modifier in specialized adhesives and surface coatings, correct?

A. Yes.

Q. He does not mention PCB use in NCR paper, which was the biggest nonelectrical use, correct?

MR. MILLER: Object to the form.

THE WITNESS: He does not mention NCR paper.

QUESTIONS BY MS. EVANGELISTI:

Q. He also expresses the -- Monsanto's statement that it's difficult to see how commercially produced PCB could be showing up in the environment in the quantities reported, correct?

A. That's how the document reads, yes.

Q. He also indicates that PCBs are not used in house paints, correct?

A. Yes.

Q. Now, Monsanto specifically marketed PCBs for use in house paints, correct?

A. I don't believe that's correct. At least certainly in the United States, anyway.

Q. Not in the United States?

A. Yeah, I don't know whether -- you know, the experiments that we talked about were Great Britain. I don't know whether they were marketed there or not.

(Kaley 30(b)(6) Exhibit 40 marked for identification.)

that was the tenor of the meeting.
I mean, the tenor of the meeting was how to address these issues.
(Kaley 30(b)(6) Exhibit 65 marked for identification.)
QUESTIONS BY MS. EVANGELISTI:
Q. Handing you Exhibit 65. Have you seen this document before?
A. Yes.
Q. Can you identify it, please?
A. Yes.
It's a document -- well, the cover memo is a letter from Mr. Bergen to, I think these are primarily salespeople, attaching a rough draft from Dr. Richard to Mr. Wheeler regarding Aroclor toxicity. The attachment is Mr. Richard's view of the world at this point.
Q. And Mr. Richard's view at this point included as a general policy, quote, "Make the government, states and universities prove their case, but avoid as much confrontation as possible."

Correct?

A. That's what's written here.

Q. And another one of his thoughts was to prove PCBs bio harmful. Let government prove its case on a case-by-case basis.

Correct?

A. Yes, that's how -- well, that's what's written here.

Q. And he also advocated that Monsanto question evidence against us, correct?

A. That's what's written here on the safe levels, yes.

Q. And he wrote, "If Aroclor bad, others must be worse."

Correct?

A. That's what's written here.

Q. And there's an acknowledgement in this that Monsanto can't defend against everything and that some animals or fish or insects will be harmed?

A. That's what Mr. Richard wrote.

Well, that's his view of a probable outcome. That isn't necessarily

A. Correct.
Q. It says, "Leakage from plant," and then it says, dash, "scrap materials," correct?
A. Yes.
Q. On the page that ends in 289, there's a discussion here that with respect to capacitor products there will ultimately have -- they will ultimately have to dispose of capacitor products, correct?
A. Yes.
Q. On the next page, there's a mention that reworked transformers pose a threat if the Aroclor is dumped into a water stream, correct?
A. I see that wording.
Q. On page 7 of that document, there's a discussion about evaluating potentially building an incinerator, correct?
A. Well, I think this is actually discussing existing incinerators.
Q. It says, middle of it, "set up an incinerator" --
A. Oh, okay, I'm sorry, I'm still on the top page. Yes.

Q. Set up an incinerator to handle Aroclor disposal, preferably one which will handle solids such as muds, slurries, as well as liquids; have an operation within 12 months; ideally have incinerators available different sections for disposal.

Do you see that reference?

A. That's -- yes, I see what you're reading.

Q. And Monsanto did ultimately build one incinerator, correct?

A. Correct.

Q. But it only handled liquid Aroclors and did not ultimately handle solids such as muds, correct?

A. That's correct.

(Kaley 30(b)(6) Exhibit 66 marked for identification.)

QUESTIONS BY MS. EVANGELISTI:

Q. Exhibit 66.

Have you seen this document before?

A. I do not think I have.

Okay.

Q. This is an internal Monsanto

Q. And again, Wheeler is from Monsanto's medical department, and this is at least a draft of his proposed presentation to the corporate development committee?

A. Yes.

Q. And it says, number 2, "From a chronic toxicity standpoint, the PCBs may be considered moderately toxic to man, animals and fish."

Do you see that reference?

A. Yes.

Q. If you'll turn to the page that ends in 52232.

A. Okay.

Q. Mr. Wheeler -- Dr. Wheeler or Mr. Wheeler?

A. No, Mr. Wheeler.

Q. Mr. Wheeler, in his proposed presentation to the corporate development committee, states, quote, "The future of these materials is threatened more by the potential effect on some forms of wildlife rather than potential toxic effects as we usually think of them in relation to human or animal foods."

Do you see that reference?

A. Yes.

Q. So Wheeler, in this time frame, believed that the threat to PCB as a product was a result of potential effects on wildlife, correct?

MR. MILLER: Object to the form.

THE WITNESS: On a relative basis, yes.

QUESTIONS BY MS. EVANGELISTI:

Q. If you'll turn to the page that ends in 52234, Wheeler was reporting -- or was proposing to report to the CDC in November of 1969 that, quote, "The possible sources of indirect contamination might be related to every single use of our products, whether the uses be in electrical applications, other industrial fluids or plasticizer usage."

Do you see that reference?

A. I see it.

Q. So at this time in November of 1969, Monsanto was aware that there was a potential for environmental contamination

posed by every single one of the use of its products; is that fair to say?

MR. MILLER: Objection. Misstates the document which speaks for itself.

THE WITNESS: The document says the indirect contamination might be related to every single use of our products, in Mr. Wheeler's view.

QUESTIONS BY MS. EVANGELISTI:

Q. If you'll turn to the page that ends in 52235.

This is -- this page talks about 1242, correct?

A. Largely, yes.

Q. And it says, quote, "We hope to develop data that will show that the lower chlorinated biphenyls, that is, Aroclor 1242, and those lower in chlorination are degraded in the environment and thus do not present a threat to wildlife," end quote.

Do you see that reference?

A. Yes.

Q. So at that point they hadn't actually established whether or not 1242

# EXHIBIT R

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF WASHINGTON

| | | |
|---|---|---|
| CITY OF SPOKANE, a municipal corporation located in the County of Spokane, State of Washington, | ) | |
| Plaintiff, | ) | Case No.: 2:15-cv-00201-SMJ |
| v. | ) | |
| MONSANTO COMPANY, et al., | ) | |
| Defendants. | ) | |

THURSDAY, JANUARY 9, 2020

- - -

Videotaped 30(b)(6) deposition of Robert Kaley, Volume III, held at the offices of CAPES, SOKOL, GOODMAN & SARACHAN, P.C., 7701 Forsyth Boulevard, 12th Floor, St. Louis, Missouri, commencing at 9:02 a.m., on the above date, before Carrie A. Campbell, Registered Diplomate Reporter, Certified Realtime Reporter, Illinois, California & Texas Certified Shorthand Reporter, Missouri & Kansas Certified Court Reporter.

- - -

GOLKOW LITIGATION SERVICES
877.370.3377 ph- 917.591.5672 fax
deps@golkow.com

(Kaley 30(b)(6) Exhibits 73, 74 and 75 marked for identification.)

DIRECT EXAMINATION (continued)

QUESTIONS BY MS. EVANGELISTI:

Q. Good morning, Dr. Kaley.

A. Good morning.

Q. I've put in front of you three exhibits, the first one, Exhibit 73. These are the minutes of the meeting of the corporate development committee of November 17, 1969, correct?

A. Yes.

Q. And these are minutes of the meeting where the PCB ad hoc committee presented to the corporate development committee the options regarding what they could possibly do to address the PCB situation?

A. Yes, this was the results of the ad hoc meeting.

Q. On the first page is a reference to Monsanto's worldwide Aroclor business amounting to $22 million in sales.

Do you see that reference?

A. Yes.

Q. And was that a correct figure at that time?

A. We've seen that before. As far as I know it was.

Q. Okay. On the second page, as part of the discussion of the issue, the corporate development committee discussed the, quote, rule -- the rule that, quote, "If a manufacturer knows or should have known that a product of its manufacture may cause damage if not properly used, he has a duty to give warning to customers and users," end quote.

Do you see that reference?

A. It said, "Although the law is unsettled, that is the present general rule."

Yes, I see that.

Q. And that was discussed at that meeting?

A. Apparently, based on this document, yes.

Q. And one of the recommendations from the legal standpoint was to provide adequate warnings to customers and users,

including advice as to disposal methods, correct?

A. That's correct.

Q. And then finally on the last page, the ultimate decision of the corporate development committee was to, quote, "In light of the recent and developing evidence of a possible threat to certain species of bird and aquatic life, we should plan to discontinue the manufacture of Aroclors 1254 and 1260. The division is instructed to develop a program to discontinue these products and report this to the committee, and the status of Aroclor 1242 should continue to be tested to determine whether it contributes to this problem," end quote.

Do you see that?

A. Yes, you read that correctly.

Q. And that was the conclusion of the committee on that date?

A. At that date, yes.

Q. Okay. Then moving to the second -- or the second exhibit of the day, which is Exhibit 74, you've seen this document, correct?

A. Yes.

Q. So this document reflects a meeting between individuals from Monsanto and individuals from General Electric on or about January 22nd -- January 21st and 22nd of 1970, correct?

A. That's correct.

Q. So that's subsequent to this meeting we just discussed of the corporate development committee?

A. Yes, it is.

Q. If you'll go to the second page, the status of the Aroclor studies at IBT were discussed during that meeting, correct?

A. That's one of the subject -- or the titles, yes.

Q. And it was reported by Mr. Wheeler -- Mr. Wheeler reported on the chronic animal toxicity tests and animal reproducibility studies underway, correct?

A. Yes.

Q. And he reported that they were, quote, "not as favorable as we had hoped or anticipated. Particularly alarming is

MR. MILLER: Object to the form. Misstates prior testimony. Improper impeachment.

THE WITNESS: As far as I know, that's correct, yes.

QUESTIONS BY MS. EVANGELISTI:

Q. And if you'll look at the page that ends in 838.

A. Are we back to 74?

Q. The meeting minutes, yes, sorry.

A. Yes. Yes. All right.

Q. It was also discussed -- I'm referring to the second paragraph -- that at that time at GE alone, apparatus in which Askarel fluid is used represents $100 million annually, correct?

A. That's what the document reads.

Q. And also during that meeting, it was discussed the various environmental sources of PCBs from dielectric applications, correct?

A. Yes.

Q. And the various sources include spills, yes?

A. Yes.
Q. Disposal of waste?
A. Yes.
MR. MILLER: I'm sorry, where are you?
MS. EVANGELISTI: F.
MS. WERSTAK: What exhibit? Sorry.
MS. EVANGELISTI: The meeting minutes. The January --
MR. MILLER: 74?
MS. EVANGELISTI: Yes.
MR. MILLER: There are a number of Fs. Can you just give me a page number?
MS. EVANGELISTI: 838. Okay. It's the third page of the document. The reference to GE's $100 million annually is the second paragraph.
MR. MILLER: I got that.
MS. EVANGELISTI: Okay. So then we're going to F, which is the environmental sources.
QUESTIONS BY MS. EVANGELISTI:
Q. So discussed at that meeting

were environmental sources of PCBs from dielectric applications, correct?

A. Yes.

Q. And it includes spills?

A. Yes.

Q. Disposal of waste?

A. Yes.

Q. Ultimate disposal of product for failed apparatus, correct?

A. Written down here, yes.

Q. Ventilation of operation for employee protection, correct?

A. Yes.

Q. And does that refer to the -- in a facility where PCBs were used and heated, there was a recommendation and warning to ventilate so the employees wouldn't be exposed to the fumes?

A. Certainly related to that, yes.

Q. And so that those fumes would be ventilated outside the facility?

A. Generally, yes.

Q. And that was identified as an environmental source of PCB in this meeting, correct?

A. In the document, yes.
Q. Also waste from containers, correct?
A. Yes.
Q. Field on service failures. Do you see that reference?
A. I do.
Q. Do you know what that refers to?
A. I suspect it's a typo. It should be "or." I don't know that for sure, though. Makes more sense if it's "field or service failures." I don't know that.
Q. Meaning failure of the equipment while in use?
A. Yeah, which is the same as 3, so -- well, no, it's disposal -- I don't know. I'm just going to say I don't know what it means.
Q. Okay. One potential source, environmental source, of PCBs is if there was a failure of equipment while being used, correct?
MR. MILLER: Object to the form.

QUESTIONS BY MS. EVANGELISTI:

Q. I'll move on.

A. I don't know what that -- you know, as I said, I don't know for sure what 6 means.

Q. Okay. Number 7, identified as repair and return apparatus, service jobs, correct?

A. Yes.

Q. If you'll go to page that ends -- it's the fourth page. At the top it says number 4.

Discussed at that meeting were the estimated annual amounts of contaminated and scrap PCBs from the electrical industry, correct?

A. That's Topic H, yes.

Q. And with respect to the transformer industry, identified were in-plant -- this is A. In-plant and field spills are small and controllable with absorbants, which should be incinerated.

Do you see that reference?

A. Yes.

Q. So that refers to, for example,

if there was a spill of liquid PCB and sawdust was used to absorb the spill, that's what you're referring to, correct, that type of scenario?

MR. MILLER: Okay.

THE WITNESS: That's what the document's referring to.

QUESTIONS BY MS. EVANGELISTI:

Q. Okay. And the recommendation is that those materials should be incinerated, correct?

A. That's what this document says, yes.

Q. And Monsanto, although they did build an incinerator, the incinerator Monsanto built was not built to incinerate those types of absorbants, correct?

A. That's my understanding.

Q. And what Monsanto recommended to its customers, those that utilized PCBs, were that they should put those contaminated absorbants into landfills, correct?

MR. MILLER: Object to the form.

THE WITNESS: But there was an

incinerator in Texas that I also think Monsanto referred some customers to.

QUESTIONS BY MS. EVANGELISTI:

Q. You've seen many letters -- and if not, I'll bring them out. But you've seen many letters where there was warnings by Papageorge that we recommend that you put these contaminated sawdust and rags into landfills?

A. Certainly that was one of the recommendations, yes.

Q. Then it goes on and talks about with respect to the transformer industry, "near 2 million pounds a year of transformer Askarels are sold to service and repair shops. These people do not manufacture new transformers, although on occasion they may fill new transformers sent into the field without fluid. As these service shops are devoted primarily to repairing faulty transformers, we can assume that as much as 100 million pounds annually of scrap is generated. Most of this has been dumped or disposed of in streams."

Do you see that reference?

A. I do see that.
Q. And that was Monsanto's understanding in January of 1970?
A. Well, it's in this document. I don't know whether that information came from Monsanto or General Electric, but it is in this document.
Q. And that was discussed at that meeting?
A. Apparently. Obviously, yes, it was in the minutes of the meeting.
Q. What did Monsanto do to address this situation, if anything?
MR. MILLER: Object to the form.
THE WITNESS: They labeled their products and their bulletins with information that PCBs should not be disposed of where they could reach waterways.
QUESTIONS BY MS. EVANGELISTI:
Q. And was there any effort to go out and determine whether those warnings were being followed?
A. I have no information to

that -- of that type. I don't know.

Q. When the warning that you described is given, don't -- tell me again what the information that was provided to prevent this from happening.

MR. MILLER: Object to the form.

QUESTIONS BY MS. EVANGELISTI:

Q. I want to use your words.

MR. MILLER: Object to the form. Asked and answered.

THE WITNESS: I don't have it memorized, but it was something to the effect that PCBs should be disposed of carefully and that disposal should be not -- or should be somewhere to avoid where the waste could get to waterways.

QUESTIONS BY MS. EVANGELISTI:

Q. Waterways.

Okay. So what does that mean in terms of what should be done differently?

MR. MILLER: Object to the form.

What time period are you

talking about?

MS. EVANGELISTI: 1970 through '73.

THE WITNESS: That would depend on what each individual facility was doing.

QUESTIONS BY MS. EVANGELISTI:

Q. So Monsanto left it up to the facility, the decisionmaker, those who normally dumped or disposed of in streams, to make a decision as to how to comply with that warning?

A. As far as I know, that's correct.

Q. And then with respect to the capacitor industry, if you'll look at B, there's a reference to scrap badly contaminated with polypropylene, epoxides, solvents, oil, grease and junk, is generated at not over 50,000 pounds a year. This material should be incinerated along with 150,000 pounds of scrap from transformers.

Do you see that reference?

A. I do.

Q. And likewise, Monsanto's

incinerator was not designed to incinerate that generated waste, correct?

MR. MILLER: Object to the form.

THE WITNESS: They could not generate -- the Monsanto incinerator could not handle solid materials, that is correct.

QUESTIONS BY MS. EVANGELISTI:

Q. If you'll turn to page 8, number 14. Flipping back real quick.

This is a list of, quote, "facts as agreed by those in attendance," correct?

A. That's how it's labeled, yes.

Q. And so then number 14 says, "Based on six months of chronic studies in rats and dogs, some PCBs are moderately toxic and more so than DDT, but less toxic than some of the other chlorinated hydrocarbon insecticides."

Do you see that reference?

A. I do.

Q. And that was Monsanto's understanding in that time frame based on the

hour.

VIDEOGRAPHER: Yeah, over an hour.

MR. MILLER: Okay. Let's take a break.

VIDEOGRAPHER: We are going off the record, 11:28 a.m.

(Off the record at 11:28 a.m.)

VIDEOGRAPHER: We are back on the record, 11:39 a.m.

(Kaley 30(b)(6) Exhibit 92 marked for identification.)

QUESTIONS BY MS. EVANGELISTI:

Q. I've put in front of you Exhibit 92, which is a letter from H.A. Vodden to J.W. Barrett in London.

Have you seen this before?

A. No, I have not.

Q. Who is H.A. Vodden?

A. He was an employee, I believe, in Great Britain.

Q. Of Monsanto?

A. Yes.

Q. And he indicates in this letter that he's inclined to agree that small

capacitors --

A. Okay. Yes.

Q. He writes in this letter, open quote, "I'm inclined to agree that small capacitors, which are or have been used as ballast capacitors in fluorescent lighting fittings and in motor start/run applications, are not controllable from the point of view of eventual disposal and are therefore open uses."

Do you see that?

A. Quote, "open," unquote, yes.

Q. Does Monsanto agree with the proposition that small capacitors are considered open from the point of view of eventual disposal?

A. Well, Mr. Vodden agreed with that, or he is inclined to agree with that.

Q. What, if anything, did Monsanto do to address the potential issue of disposal of small capacitors at the end of their life to ensure that it did not -- they did not cause environmental contamination?

MR. MILLER: Object to the form. It assumes a duty to do

something.

THE WITNESS: I'm not aware of anything that Monsanto particularly did. When the EPA regulated PCBs, they allowed them to be disposed of in regular disposal routes.

QUESTIONS BY MS. EVANGELISTI:

Q. None of the articulated steps proposed by the PCB ad hoc committee and agreed to by Monsanto management addressed the issue of potential environmental contamination that may be caused by the disposal of small capacitors at the end of their useful life?

A. That's correct.

(Kaley 30(b)(6) Exhibit 93 marked for identification.)

QUESTIONS BY MS. EVANGELISTI:

Q. Exhibit 93.

This is a letter from Congressman Ryan to John Mason at Monsanto dated June 18, 1970, responding to his letter, Mason's letter, of April 28th regarding PCBs.

Have you seen this before?

A. I wish I could tell you. I don't know. I should. I think I've looked it up before, but I don't remember what it is. Something -- I'm not even going to speculate.

MR. MILLER: It's an accounting code.

MS. EVANGELISTI: Okay.

(Kaley 30(b)(6) Exhibit 101 marked for identification.)

QUESTIONS BY MS. EVANGELISTI:

Q. Exhibit 101.

I'm sorry, did I put that --

A. Well, it slips under there.

Q. Sorry.

A. If you don't do it, I do it.

Q. This is a document dated November 11, 1970, from Papageorge to Benignus providing comments concerning a letter dated October 28 -- I'm sorry, October 27, 1970, from R.F. Casey, Ohio Edison.

Have you seen this document before?

A. I think I have, yes.

Q. This document reports that there was increasing evidence that PCBs similar to Aroclor 1248 and Aroclor 1242 are being identified, especially near industrial plant effluents, correct?

A. Yeah, I've said that before, yes.

Q. Is this just a reference, to your understanding, to the analysis that Monsanto had done previously that we talked about in that document?

A. Well, I think it's not only our findings, but I think other people were confirming that Aroclor 1242 could be found right outside of facilities where it was being used.

Q. So not just Monsanto; others were finding Aroclor 1242 out in the environment by industrial plant effluents?

MR. MILLER: Hold on. Object to the form. Misstates prior testimony.

THE WITNESS: I believe that's correct.

QUESTIONS BY MS. EVANGELISTI:

Q. And it also indicates, quote, "There is also evidence that these lower chlorinated materials are having adverse effects on some species of wildlife."

Do you see that reference?

A. I do.

Q. What does that refer to; do you know?

A. I do not know. Do not know.

Q. And at the bottom of this first page, Papageorge here is discussing how to deal with solid waste contaminated with PCBs, correct?

A. Yes.

Q. And he's saying that -- basically he's discussing the possibility of dealing with this type of waste in an incinerator, but the economics was not yet known, correct?

MR. MILLER: Objection. Vague and compound.

THE WITNESS: I think that's a generally fair reading.

QUESTIONS BY MS. EVANGELISTI:

Q. But he's saying right now that he's recommending using properly operated landfills for this waste until they are declared illegal, correct?

A. That's what he wrote.

Q. On the next page it indicates that "the capacitor manufacturers have discouraged the utilities from using landfills. I can understand their concern, which I suspect is legally motivated, but for the time being, landfills are the only practical solution anyone has to offer," end quote.

Do you see that reference?

A. I do.

Q. So at that time frame in November of 1970, Monsanto hadn't built any -- had not built its incinerator yet, correct?

A. That is correct.

Q. And so there was -- at this point, the only place where PCB waste could be disposed of is in landfills, correct?

A. No, there were other

the aqueous layer of that liquid should not be dumped under any circumstances and that you may wish to check this out with the chemical cleaning service concerned as to how they can handle the disposal, correct?

A. Correct.

Q. That's the extent of the information provided to those customers when asking about that issue?

MR. MILLER: Object to the form. It calls for speculation.

THE WITNESS: Based on this letter, this is certainly the starting point.

QUESTIONS BY MS. EVANGELISTI:

Q. Okay. And the next document is 105.

A. Yes.

Q. This is another communication internal of Monsanto regarding PCB heat transfer fluids, Therminol FR, and it goes to all Monsanto offices.

Have you seen this before?

A. Yes, I have.

Q. In essence, does this

communication indicate that the customer, when converting from PCB-containing Therminol fluid to non-PCB-containing Therminol fluid, is told that ultimately the conversion and disposal are his problem?

A. It contains that sentence, but I think that has to be taken into consideration on the second page where it says he should check with his own legal authorities. Because it goes out to the world, so it's -- each country may have different regulations that they need to comply with.

Q. And also, Monsanto individuals were told to be helpful but to, quote, "avoid accepting any direct responsibility for a successful conversion and safe disposal."

Correct?

A. That's the words in this document.

Q. And the reason why is, quote, "the stakes are simply too high for us to accept any such risks," end quote.

Do you see that reference?

A. Yes.

MR. MILLER: Object to the form.

QUESTIONS BY MS. EVANGELISTI:

Q. The stakes referenced, are they those associated with potential environmental contamination by PCBs?

A. Well, either that or noncompliance with worldwide regulations in some country.

Q. Also indicated in this letter is that complete destruction of FR fluids require incineration temperatures of 2000 degrees Fahrenheit, and it is highly doubtful that such facilities would be available in your area.

Do you see that reference?

A. I do.

Q. Does this indicate that in the 1972 time frame there were insufficient incinerators available that were able to destroy PCB fluids?

MR. MILLER: Objection. Vague.

THE WITNESS: I don't think it means that necessarily because, again, this is going to the worldwide

situation, so it really doesn't address the US situation. And Monsanto's incinerator was online by this time, and we were accepting materials for incineration.

QUESTIONS BY MS. EVANGELISTI:

Q. Are these individuals on the right outside of the US?

I'm trying to figure out where it indicates it's outside the US.

A. I thought I read that somewhere. I guess I was reading into the second sentence on the page about seeking the advice of local authorities. I read into that that it would include foreign users.

And also, there's a reference at the bottom to material from MCL may have been sold in Santa -- excuse me, Santotherm FR, and that would have not happened in the United States.

(Kaley 30(b)(6) Exhibit 106 marked for identification.)

QUESTIONS BY MS. EVANGELISTI:

Q. Okay. I'm handing you Exhibit 106.

This is a document produced by Monsanto dated August 2, 1971.

MR. MILLER: It's not. Want to start over?

MS. EVANGELISTI: Well, TOWOLDMON is a Monsanto production Bates number.

MR. MILLER: It might be, but it's a document produced by the National Electrical Manufacturers Association.

MS. EVANGELISTI: It was produced in the litigation.

MR. MILLER: Oh, I see. Okay. Well, then --

MS. EVANGELISTI: I didn't say it was authored by.

MR. MILLER: Okay. I apologize. I just wanted you to have a clean record.

MS. EVANGELISTI: That's my goal.

QUESTIONS BY MS. EVANGELISTI:

Q. Starting again, Exhibit 106 is a document produced to us in litigation by

A. No.
Q. You're not aware of what happened to either of Ryan's bills or to Congressman Ryan, correct?
A. No, I'm not aware of specifically what happened.
(Kaley 30(b)(6) Exhibit 107 marked for identification.)
QUESTIONS BY MS. EVANGELISTI:
Q. Exhibit 107.
Exhibit 107 is an internal Monsanto communication from W.R. Richard to Paul Benignus dated April 14, 1969, regarding disposal incineration of Aroclor.
Have you seen this document before?
A. I don't recall having seen it.
Q. I'll give you a second to review it, or a minute.
A. All right.
Q. Is it true that one of the reasons why Monsanto elected to build the incinerator is to defend the Aroclor position?
A. That's what this document

implies.

(Kaley 30(b)(6) Exhibit 108 marked for identification.)

QUESTIONS BY MS. EVANGELISTI:

Q. Exhibit 108.

This is a communication from Benignus to Olson, December 5, 1969, regarding PCB toxicity problem, proper disposal of scrap Aroclor.

Have you seen this before?

A. Yes, I have.

Q. It indicates that over six months previous -- well, I'll just read it. Quote, "Over six months ago we pointed out an impending need for Monsanto to provide an incinerator either on Monsanto property or elsewhere to effectively dispose of scrap Aroclor."

And then it says, "We were surprised to learn at a meeting last Wednesday that this request had not received support," end quote.

Do you see that reference?

A. Yes.

Q. And then it says at the very

bottom, "At the present time, our only means for disposal is to a landfill. We are warned that this will no longer be acceptable. Accordingly, Mr. Kountz will now explore incineration, and Mr. Kuhn will explore distillation at our plants."

Do you see that reference?

A. I do.

Q. Isn't it true that internally in December of 1969, Monsanto was discussing the fact that disposal to a landfill of PCB waste was no longer going to be acceptable?

A. It says they had received that warning. It doesn't say that they in fact would not be acceptable or continue to be acceptable.

MR. MILLER: Today.

QUESTIONS BY MS. EVANGELISTI:

Q. Do you know who was warning them that it was -- no longer be acceptable?

A. I don't -- I do not.

(Kaley 30(b)(6) Exhibit 109 marked for identification.)

QUESTIONS BY MS. EVANGELISTI:

Q. Exhibit 109.

This is another communication internal to Monsanto from R.M. Kountz to various individuals, copying a number of other individuals, dated December 8, 1969, regarding Aroclor waste disposal.

Have you seen this before?

A. Yes, I have.

Q. And this indicates that there was a strong feeling internally in some parts of the Monsanto business -- the PCB-related business group that incineration facilities were needed for disposal of contaminated Aroclor, correct?

A. Yes, that's consistent with the previous memo.

Q. And in fact, what's represented in this Monsanto internal communication is that there was a serious question and doubt as to whether landfill is the proper disposal method, correct?

A. It says that, yes.

(Kaley 30(b)(6) Exhibit 110 marked for identification.)

QUESTIONS BY MS. EVANGELISTI:

Q. Exhibit 110.

This is a Monsanto communication from Benignus to Wheeler dated February 16, 1970, regarding transformer Askarel calls in the San Francisco area.

Have you seen this document?

A. I believe I have, yes.

Q. It analyzes the scrap Askarel situation in the San Francisco area, correct?

A. That's correct.

Q. And at the --

A. Well, Los Angeles also.

Well, the title is San Francisco area, but the last entry is a contact with a firm in Los Angeles. They may have had a San Francisco facility, I don't know that, but it speaks to other places besides just San Francisco.

Q. Okay. One of the things that was determined in this time frame, being February of 1970, was that the City of San Francisco had a landfill in the Bay area, but it was about full, correct?

A. That's the first point made, yes.

Q. And there was a landfill called

Mountain View located just south of Redwood City, correct?

A. Yes.

Q. But also these landfills are adjacent to the shoreline, so only solids, no liquids, can be disposed there, correct?

A. That's what this document reads.

Q. One of the conclusions of this document on the second page was that, quote, "While the amount of scrap Askarel generated on the West Coast is small, there are no good disposal areas on the coast."

Do you see that reference?

A. Yes, I do.

Q. And that was Monsanto's assessment of that situation in that area of the country at that time frame?

MR. MILLER: Objection.

THE WITNESS: Certainly Mr. Benignus wrote that.

QUESTIONS BY MS. EVANGELISTI:

Q. And Monsanto -- the one incinerator that Monsanto built was where?

A. At the Krummrich plant in

Illinois.

(Kaley 30(b)(6) Exhibit 111 marked for identification.)

QUESTIONS BY MS. EVANGELISTI:

Q. I'm handing you Exhibit 111. This is -- appears to be the appropriation request at Monsanto for the finances to build the incinerator.

Is that a generally accurate description?

A. Yes.

Q. Have you seen this before?

A. Yes.

Q. And one of the reasons for why Monsanto was requesting the resources to build the incinerator was, quote, "To close the loop on closed system applications of Aroclor such as electrical equipment and heat transfer systems."

Correct?

A. Yes.

MR. MILLER: Object to the form. Incomplete.

QUESTIONS BY MS. EVANGELISTI:

Q. In particular, it was

represented that Monsanto needed the capacity -- capability, I'm sorry, the capability to reclaim or destroy spent or contaminated fluid, correct?

A. That's how it reads.

Q. And if you go to page 3 of the document, under the Premises --

A. Yes.

Q. -- it indicates that with respect to applications where Aroclor safety and electric stability are irreplaceable, we believe, quote, "and have indicated to regulatory agencies, concerned legislators and the public that closed system applications pose no threat to the ecology," end quote.

Do you see that reference?

A. I do.

Q. And in order to fully implement the program, it was determined internally at Monsanto that it must have a working system for disposal of fluid drained from dismantled transformers or otherwise contaminated or unusable materials, correct?

A. That's how the document reads,

yes.

Q. And that was the basis and rationale why Monsanto built its one incinerator?

MR. MILLER: Object to the form. Incomplete. Argumentative.

THE WITNESS: Well, I think it goes on to say the key premise of this project is that customers can be motivated to return such materials for reclamation or disposal, given an economical and practical way to do so. So it was an inducement to our customers to implement appropriate disposal methods.

QUESTIONS BY MS. EVANGELISTI:

Q. Is it fair to say that Monsanto's position in this time frame was that to ensure that the closed system applications that they were continuing to manufacture PCBs for, to ensure that those systems posed no threat to the ecology, there had to be incinerators available to deal with drain fluid, contaminated or unusable materials?

MR. MILLER: Object to the form. Incomplete.

THE WITNESS: I think that's generally a fair appraisal.

(Kaley 30(b)(6) Exhibit 112 marked for identification.)

QUESTIONS BY MS. EVANGELISTI:

Q. Exhibit 112.

This is a document produced by Monsanto in this litigation. It's entitled "Questions and Answers to be Used Only to Respond to Direct Questions from the Media, second draft approved, November 7, 1977."

Have you seen this document before?

A. It's November 4th --

Q. I'm sorry.

A. -- but other than that, I have seen the document.

Q. I have no idea what I even said, but you have seen it?

A. I believe so, yes.

Q. And this discusses the phase-out of PCBs at that time frame, correct?

A. Yes.
Q. And it also has a section talking about what will happen to the incinerator at the Krummrich plant, correct?
A. Yes.
Q. And it indicates, quote, "That incinerator was built six years ago, primarily to burn residues created when PCB is manufactured."
Do you see that reference?
A. Yes.
Q. So the incinerator that Monsanto used when taking back fluid, was it an incinerator that had already been in existence for a different purpose?
A. No.
Q. Okay.
A. The primary -- as it says here, it says primarily. I don't know that that was the total primary reason, but the incinerator was built largely to deal with our own manufacturing waste at the Krummrich plant, and as an adjunct, we were offering incineration to our customers.
Q. Okay. And it goes on to say,

total.

(Kaley 30(b)(6) Exhibit 114 marked for identification.)

QUESTIONS BY MS. EVANGELISTI:

Q. Okay. Exhibit 114. This is a document dated May 11, 1978, an internal Monsanto communication regarding EPA manual for enforcement of PCB regulations. Have you seen this document before?

A. I believe I have, yes.

Q. And it indicates that as of the moment, there are no disposal sites, either incineration or burial, which have been approved by EPA. Do you see that reference?

A. I do.

Q. And is that accurate, that as of May 1978, as far as Monsanto was aware, there were no disposal sites, either incineration or burial, which had been approved by the EPA?

A. It was accurate for at least a month -- until about a month after that, at

which time the EPA issued their regulations and I believe listed a number of approved burial sites.

Q. And by then Monsanto's incinerator had been shut down, correct?

A. Yes, it had.

(Kaley 30(b)(6) Exhibits 115 and 116 marked for identification.)

QUESTIONS BY MS. EVANGELISTI:

Q. Exhibit 115 and 116.

This Exhibit 115 is an interoffice communication of Monsanto's dated September 17, 1979, regarding PCB disposal.

Have you seen this before?

A. I do not believe I have.

Okay.

Q. This memo indicates that there are at that time, September of '79, only three incinerators in the United States capable of the destruction of PCBs for general commercial use, and none have been approved to date. The latest estimate is approval by the end of '79.

Was that an accurate assessment in that time frame of the availability of

incinerators in the United States capable of destroying PCBs?

A. As far as I know it is, yes.

Q. And then the next document is a September 27, 1979 memo responding to this previous document that's marked as Exhibit 115.

Have you seen this before?

A. No, I have not.

Q. Actually, I'm not even going to ask any questions on that.

A. Okay.

Q. Trying to save time.

(Kaley 30(b)(6) Exhibit 117 marked for identification.)

QUESTIONS BY MS. EVANGELISTI:

Q. Exhibit 117.

This is a document produced by Monsanto in litigation. It appears to be a photocopy of a page of Toxic Materials News dated December 12, 1979, and there's a paragraph entitled "PCB landfills" -- sorry, "PCB landfill disposal facilities listed by EPA."

Have you seen this before?

A. No.

Okay.

Q. And this document indicates that there were -- at that point in time, December of '79, there were several facilities for the disposal of materials containing PCBs that had been approved by the EPA, but they were all landfills, and at that time there were still no approved commercial PCB incineration disposal facilities.

A. That's what this document reads.

Q. And do you have any doubt that that was an accurate assessment of the facilities available in that time frame?

A. No, I'm sure it was accurate.

(Kaley 30(b)(6) Exhibit 118 marked for identification.)

QUESTIONS BY MS. EVANGELISTI:

Q. Exhibit 118.

Okay. I think the last two pages shouldn't be on there. The last three pages. I'm going to fix your exhibit.

Okay. So for the record, the exhibit PCB-ARCH-EXT0020549 through 552, the

original image had extra pages that weren't related, so I just took them off.

A. I understand.

Q. Okay. This is a Monsanto communication from John Craddock attaching a copy of the most recent, June 1980, listing of EPA-approved chemical waste landfills for PCB disposal.

Have you seen this before?

A. Yes, I have.

Q. Okay. So in June of 1980, there were only eight landfills available that had been approved by the EPA for disposal of PCB waste; is that right?

A. Assuming this document is correct, which I believe it is, yes.

(Kaley 30(b)(6) Exhibit 119 marked for identification.)

QUESTIONS BY MS. EVANGELISTI:

Q. Exhibit 119.

This is a Monsanto October monthly report from Craddock dated November 4, 1981.

Have you seen this before?

A. I'm going to say probably, but

I don't have a specific recollection of it.
I may not have, actually.
Q. Oh, you're done. I'm sorry.
A. Oh, yes.
Q. This indicates that in California at that time frame, November 1981, there were no EPA-approved PCB landfills in the state of California, and nor are there any PCB incinerators there.
Do you see that reference?
A. Yes.
Q. Was that an accurate assessment of the state of the facilities in California that were approved by EPA to dispose of PCB waste?
MR. MILLER: Object to the form.
THE WITNESS: I have no reason to believe it's not.
(Kaley 30(b)(6) Exhibit 120 marked for identification.)
QUESTIONS BY MS. EVANGELISTI:
Q. Exhibit 120.
This is a December 31, 1991 monthly report on PCB issues, December

highlights, authored by Craddock and Mappes.

Have you seen this before?

A. Obviously, I have.

Q. Oh, were you copied on it?

The second page indicates: Of the four permitted commercial PCB incinerators in the US, only one is currently in operation, resulting in skewed demand and significant increase in pricing.

Do you see that reference?

A. Yes.

Q. Is that accurate, that in December of 1991, of the four permitted commercial PCB incinerators in the US, only one was currently in operation?

MR. MILLER: Object to the form.

THE WITNESS: I have no reason to believe it's not true.

QUESTIONS BY MS. EVANGELISTI:

Q. Did Monsanto at any time do any analysis or assessment to determine in what way PCB waste was being disposed of?

A. In what time frame?

Q. You know, after -- basically

after 1970 or '71.

I mean, was there ever an assessment to determine by Monsanto that X percent were using incinerators, X percent were putting in landfills, and X percent were dumping?

Any type of analysis like that overall to see what was happening with PCB waste?

A. Not that I'm aware of.

MR. MILLER: Other than the documents you've previously identified?

THE WITNESS: Right.

MS. EVANGELISTI: I don't see any assessment of who was using what facility. I just saw assessments of the fact that there weren't any available.

MR. MILLER: Oh, there's assessments that --

MS. EVANGELISTI: You can do it on cross, Adam.

MR. MILLER: -- there are 300 --

# EXHIBIT S

Job No. 3414348

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF CALIFORNIA, SAN DIEGO

| | |
|---|---|
| SAN DIEGO UNIFIED PORT DISTRICT, a public corporation; and CITY OF SAN DIEGO, a municipal corporation, Plaintiffs, vs. MONSANTO COMPANY, SOLUTIA, INC., and PHARMACIA CORPORATION, Defendants. | Case No.: 3:15-CV-0578-WQH-AGS |

VIDEOTAPED DEPOSITION OF ROBERT KALEY, Ph.D.
Taken on Behalf of the Plaintiffs
June 13, 2019
Volume IV
(Starting time of the deposition: 9:08 a.m.)

A. To the bugs. And I believe -- I -- it says in here somewhere, as I've read it, that at some point after they stopped feeding the bugs the Aroclors, that they continued to monitor the system. And I think what this is saying is that there was no significant decrease in the 1254 over that period subsequent to the feeding.

Q. So no continued biodegradation?

A. That would be the inference, yes. At least not significant.

Q. So Page 3 at the bottom, I want to put a date on it. It says, "The final sampling period for the Aroclor 1254 and Aroclor 1242," et cetera, et cetera, "was started February 8th, 1971 and completed March 8th, 1971." Do you see that?

A. That's with the feed rate of 1 milligram per cubic -- or, oh, 1 -- yes, for 20 -- 48 hours. Yes, I do. I agree.

Q. So this -- this test was completed in the March 1971 time frame?

A. Yes. Okay. Yes.

[Marked Exhibit No. 162.]

Q. (By Ms. Evangelisti) That's all I wanted on that. I'm handing you exhibit -- Exhibit 162. This is the presentation to the Interdepartmental Task

Force on PCBs, Washington, D.C., May 15, 1972 by Monsanto Company. Have you seen this document before?

A. Yes, I have.

Q. And tell us the point of the task force. Why was it created?

A. The point of the task force, as I understand it, was to accumulate and assimilate the knowledge of PCBs in the various government agencies that had responsibilities for various aspects of the PCB issue.

Q. And in that time frame, there was discussion in the media and concern about PCB in the environment; is that fair to say?

A. Yes.

Q. And the task force was created to gather information together and kind of assess the situation?

A. For the -- for those government agencies, yes.

Q. And this presentation is Monsanto presenting to the -- the members of the task force Monsanto's experience with PCBs?

A. Yeah, this is the -- you'll note that this is dated after the issuance of the actual task force report. So this is apparently, as I understand it, additional information that was presented after the report had been issued.

Q. Do you know why Monsanto presented additional information after the report had been issued?

A. I do not specifically know why.

Q. If you look at the first page, this is the introduction of the presentation by William Papageorge, correct?

A. Yes.

Q. And it says, slide one, "We plan to discuss current results of laboratory biodegradation studies of PCBs and the levels of PCB residues for -- observed in the tissues of laboratory animals which were used in our toxicity studies." Do you see that?

A. Yes.

Q. So there's two things that Monsanto planned to discuss, at least as referenced here. One is biodegradation studies, and another is PCB residues. Those are two separate things; is that right?

A. In -- in the animals in the toxicity studies, yes.

Q. And then it says "We will review briefly actions Monsanto has taken to reduce PCB usage and environmental losses." Do you see that?

A. Yeah. Yes.

Q. And then it says, "We will also discuss the

application of our laboratory findings to the development of a modified, more readily degradable PCB mixture for use by the capacitor industry as a dielectric fluid." And that fluid is Aroclor 1016, correct?

A. Yes.

Q. So, basically, Monsanto was representing to the task force that Monsanto has knowledge about biodegradation of PCBs and that it was introducing a more environmentally friendly product, 1016; is that fair to say?

A. Yes.

Q. And that Monsanto had taken steps to reduce PCB usage and environmental losses, correct?

A. Yes.

Q. So basically Monsanto's representation to the task force, and I'm not specifically looking at this, I'm saying in general is, there was a problem, but we're resolving it; is that fair?

A. We're working on it, trying to resolve it, yes.

Q. And if you look at page -- I don't know the page, but a few pages later is "The Assessment of the Biological Persistence of Polychlorinated Biphenyls" by Dr. E.S. Tucker. Do you see that?

MR. MILLER: The same objection.

A. No. He was suggesting that homologs with four or fewer chlorines would degrade at one -- at one -- one sort or another at measurable rates.

Q. (By Ms. Evangelisti) And that would be 1242?

A. And below, as well -- yeah. Yeah, generally 1242 and below.

Q. But nowhere does he talk about the fact that 1254 wouldn't and would still be in the environment, correct?

MR. MILLER: Object to the form of the question.

A. The results don't say that. It says it shows that they're degrading slowly, and that would explain why they are being detected, because they are not degrading as quickly as the other materials.

Q. (By Ms. Evangelisti) If you look at the page "Monsanto PCB Actions by Dr. C. Paton" -- it's about three-quarters of the way through.

A. Yes. It's probably after that.

MR. MILLER: Are we still on the slides? Okay. Yeah.

A. I'm there.

Q. (By Ms. Evangelisti) In this section, Mr. Paton is representing to the task force that the

# EXHIBIT T

ANSI.

american national standards institute, inc.

Address Secretary at:
National Electrical Manufacturers Association
821 Fifteenth St., N.W., Suite 438
Washington, D.C. 20005 (202) 737-8888

# MINUTES

MINUTES: ANSI COMMITTEE, C107, ON USE AND DISPOSAL OF ASKAREL AND ASKAREL-SOAKED MATERIALS

PLACE OF MEETING: SHERATON O'HARE NORTH ROSEMONT, ILLINOIS

DATE AND TIME: MONDAY, JANUARY 12, 1976 1:00 P.M. --

TUESDAY, JANUARY 13, 1976 10:00 A.M. - 11:15 A.M.

MEMBERS PRESENT

Certified Ballast Manufacturers Association (CBMA)

| | |
|---|---|
| N. R. Clark | Universal Manufacturing Company |

Electric Light & Power (ELP)

| | |
|---|---|
| W. E. Shoulders (Representing F. R. Lengefeld) | Union Electric Company |
| E. C. Edwards (Representing H. A. Onishi) | Commonwealth Edison Co. |

Electronic Industries Association (EIA)

| | |
|---|---|
| C. Tuttle | Aerovox Industries, Inc. |

Institute of Electrical & Electronic Engrs., Inc. (IEEE)

| | |
|---|---|
| E. L. Raab | General Electric Company |

National Electrical Manufacturers Association (NEMA)

| | |
|---|---|
| J. L. Butner | Sangamo Electric Company |
| R. D. McClain | Westinghouse Electric Corp. |
| J. R. Willy | McGraw-Edison Power Systems Div. |

Government

| | |
|---|---|
| T. Kopp | Environmental Protection Agency |

Individuals

| | |
|---|---|
| D. Hillis (Representing R. L. Hauser) | Electrical Utilities Company |
| W. P. Papageorge | Monsanto Company |
| W. Philipbar | Rollins Environmental Services |
| A. L. Rickley | Doble Engineering Co. |
| L. E. Wagner | Chem-Trol Pollution Svcs, Inc. |

MEMBERS ABSENT

Certified Ballast Manufacturers Association (CBMA)

| | |
|---|---|
| E. S. Dunham | General Electric Company |

Government

| | |
|---|---|
| D. M. Crabtree | Department of the Army |
| Dr. K. J. Hood | Environmental Protection Agency |
| Dr. J. Leutritz, Jr. | Rural Electrification Admin. (REA) |
| W. R. Nicholas | Tennessee Valley Authority (TVA) |
| C. C. Travis | General Services Admin. (GSA) |
| Dr. S. P. Wasik | National Bureau of Standards (NBS) |

Individuals

| | |
|---|---|
| R. J. Schatz | Gilbert Associates, Inc. |

OTHERS PRESENT

| | |
|---|---|
| J. M. Booe | P. R. Mallory & Co. |
| K. E. Bremer | Surveillance & Analysis Div. (Environmental Prot. Agency) |
| W. S. Brenneman | Illinois Power Company |
| J. C. Brucciani | Food & Drug Administration (FDA) |
| G. N. Bull | General Electric Co. |
| R. N. Cascarano | Commonwealth Edison Co. |
| A. S. Corson | Ofc. of Solid Waste Mgmt. Programs (Environmental Prot. Agency) |
| D. L. Gebhart | Electrical Apparatus Svc. Assoc. |
| J. Goldstein | Environmental Protection Agency |
| R. L. Grinde | Burlington Northern, Inc. |

OTHERS PRESENT Cont'd

| | |
|---|---|
| K. Klein | Energy Research & Develop. Admin. |
| J. J. Nay | Hevi-Duty Electric |
| A. D. Otte | Ofc.of Solid Waste Mgmt. Programs (Environmental Prot. Agency) |
| R. Rollins | Jard Company |
| E. R. Schlaf | Illinois Central Gulf Rd. |
| N. C. Sears | Sprague Electric Company |
| T. K. Sloat | Westinghouse Electric Corp. |
| R. A. Stenger | General Electric Company |
| P. J. Student | Bureau of Explosives, Assoc. of American Railroads |
| G. Wallis | P. R. Mallory & Company |
| J. C. Weber | Monsanto Company |
| H. Zar | Enformement Div. (Environmental Protection Agency) |
| C. R. Willmore | NEMA Staff |

PRESIDING OFFICER: W. P. Papageorge, Chairman

I. APPROVAL OF PREVIOUS MINUTES OF OCTOBER 3, 1972

The minutes of the previous meeting held October 3, 1972 were approved as distributed.

II. GENERAL DISCUSSION AND BACKGROUND INFORMATION

In general discussion regarding ANSI Standard C107.1-1974 and the overall askarel problem, it was noted that since C107.1 was adopted, a number of developments have occurred that necessitate a major revision of this document.

In December 1973, the Environmental Protection Agency (EPA) came out with limits for several toxic materials. In 1974, hearings were held on effluent standards for PCBs. In 1975, the first indication that PCBs were a problem in Great Lakes' fish was revealed at a Governor's Interagency Hearing on pesticides. Also, in November 1975 at an EPA sponsored national conference on PCBs held in Chicago, considerable evidence was given to indicate that PCBs are becoming serious environmental problems. On December 22, 1975, Mr. Russell Train, Administrator for the Environmental Protection Agency, held a press conference stating that the United States must move toward totally eliminating the use of polychlorinated biphenyls as rapidly as possible, and must in the meantime, make every effort to assure that PCBs do not enter into the environment. Mr. Train's statement is attached as Exhibit A. On December 30, 1975, EPA issued a notice of proposed rulemaking to add a new Section 311 to the Federal Water Pollution Control Act covering hazardous substances, among which is listed PCBs.

II. Cont'd:

Mr. Train has called for a meeting of manufacturer of PCBs (Monsanto) and transformer and capacitor manufacturers to be held January 14, 1976 at EPA Headquarters in Washington, D. C., and a subsequent meeting of users of equipment containing PCBs to be held January 22, 1976.

Mr. Papageorgé (Monsanto) and Mr. Kopp (EPA) both stated that EPA does want the Toxic Substances Control Act passed by Congress. Mr. Kopp stated that EPA cannot wait for the passage of such an action, therefore, will work within the framework of existing laws. Mr. Kopp summarized the situation as follows:

1. How can we stop PCBs from getting into the waterways?

2. What can we do to control the estimated 500 million pounds of PCBs still in service?

Mr. Kopp noted that the proposed rule on water quality will be significant in helping to minimize or eliminate the discharge of PCBs into the nation's waterways. He further stated that Mr. Russell Train, EPA Administrator, realizes that the PCB problem will have to be attacked and solved on a voluntary basis without the Toxic Substances Control Act. Mr. Kopp noted that recent information involving animal studies indicates that PCBs are a suspected carcinogen, and because of this, there is a new urgency to minimizing the discharge of PCBs into the environment. One bright spot noted was that in most foodstuff PCB content appears to be going down. However, for fish, notably from the Great Lakes' region, the levels are at least static and may be going up.

Summarizing the general discussion part of the meeting it was the concensus of those present that ANSI Standard C107.1-1974 on Askarels, is definitely in need of a major revision job to include a number of items that were not as urgent when the document was originally developed.

III. FORMATION OF CAPACITOR AND TRANSFORMER WORKING GROUPS

During the course of the general discussion, it became obvious that the most effective way to begin work on revision of ANSI C107.1-1974, would be to break into two separate groups; one to consider the problems from the capacitor industry point of view, and the other from the transformer industry point of view. Attached as Exhibit B is the attendance roster for the respective groups.

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III. Cont'd:

Each of the working groups were instructed to elect a Chairman who would speak for the working group and record the actions and decisions made, to then report to the main Committee on the following day.

The working groups met separately from 3:45 P.M. to 5:00 P.M. on Monday, January 12, 1976, and from 8:00 A.M. to 10:00 A.M. on Tuesday, January 13, 1976.

On Tuesday, January 13, 1976, 10:00 A.M., the main Committee convened and the working groups reported as follows:

A. Capacitor Working Group

Mr. R. Rollins was appointed as Chairman of the Capacitor Working Group and reported that their group had gone through the agenda item by item, and that the minutes for this working group would be prepared and sent to the Secretary for circulation to the entire Committee (Exhibit C). Mr. Rollins stated that in view of the magnitude of the revision job as his working group sees it, there will very definitely be the need for another meeting of the working group and the full Committee in the not too distant future.

B. Transformer Working Group

Mr. E. Raab was appointed as Chairman of the Transformer Working Group and reported that his working group had reviewed C107.1-1974 and had gone through the agenda item by item, and came to the same conclusion that Mr. Rollins did that it would very definitely be necessary to have a meeting of the working group and full Committee in the very near future. The minutes of the Transformer Working Group are to be prepared and sent to the Secretary for circulation to the entire Committee (Exhibit D).

In general discussion regarding the revision of C107.1-1974, a number of comments and suggestions were made regarding possible inclusions in the new Standard such as:

1. Possible establishment of emergency crews to be trained to handle transit problems involving PCBs.

2. Detailed information as to how to alert local fire departments and other emergency groups as to how to handle PCB spills.

3. Possible inclusion of details on "Chemtrec", Chemical Transportation Emergency Center (details in Exhibit E).

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III. Cont'd:

Various documents were distributed at the meeting are attached to the minutes:

Exhibit F, OSHA Material Safety Data Sheet from General Electric Company.

Exhibit G, OSHA Material Safety Data Sheet from Monsanto Company.

Exhibit H, EIA Spill Notification and Control Plan for PCBs.

Exhibit J, Paper from "Electra" on the Properties of Askarels and Recommendations for their Use in Electrical Equipment, prepared by Working Group 02 of Cigre No. 15.

IV. RESIGNATION OF CHAIRMAN

Mr. William Papageorge, Chairman of ANSI C107, had, prior to this meeting, notified the Secretary that due to a change in his duties with the Monsanto Company, he would be rendering his resignation as Chairman at this meeting and suggested that the Committee select a new Chairman. During the course of the meeting this item was discussed in considerable detail and the Committee was unable to come up with a candidate at this time. In view of this fact, and considering the importance and urgency of getting the revision work started, it was decided that the Committee would continue to function without a Chairman, and at the next meeting attempt to fill this position.

A number of representatives at this meeting expressed their opinions to the effect that they felt that Monsanto should supply a Chairman of this Committee.

V. TIME AND PLACE OF THE NEXT MEETING

The next meeting of the full Committee and the Transformer and Capacitor working groups was scheduled to be held at EPA Headquarters in Washington, D. C. on February 24, 1976 from 8:00 A.M. to 5:00 P.M., and February 25, 1976 from 8:00 A.M. to 12:00 Noon.

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VI. ADJOURNMENT

The Committee adjourned at 11:15 A.M. on Tuesday, January 13, 1976.

C. R. Willmore
Secretary

CRW:pmk
Attachments - Exhibits A through J

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# EXHIBIT U

M. A. Pierle - E1SF G.O.

Sept. 30, 1976

A. E. Leisy
W. W. Withers
D. Wood

PCB'S - ANSI C-107

J. C. Weber - B2SK

Comments on ANSI Publication C-107 are as follows:

1. Section 3.3.2. Last paragraph

Drums to be retired should not be delivered to scrap dealers under any conditions.

2. Section 3.5.2.2.

We should not support landfill of liquid PCB's.

3. Section 4.1.6.2.2.

We should not support landfilling liquids contaminated with PCB's.

This looks like a very good, comprehensive effort to control PCB's in the environment.

M. A. Pierle

/ms

0519800

# EXHIBIT V

**Monsanto**

FROM (NAME & LOCATION) P. G. Benignus - B2SH

DATE : July 22, 1971 cc: D. R. Hansen - 1800

SUBJECT : Askarel Inspection and Maintenance Guide

REFERENCE :

TO : C. L. CURTIS - A3NH

Please note page 16 section A where in parenthesis it is stated regarding arced Askarel, "(Discard by dumping or burying where it will not contaminate a water supply").

Since the advent of the PCB pollution problem and as we now have an incinerator, the above is no longer adequate.

Please change it to read, "Due to possible environmental pollution by PCB materials, scrap askarel must not be allowed to contaminate a water supply. The material needs to be destroyed by proper incineration at 2,000°F including facilities to neutralize hydrogen chloride gas. The user may ship the scrap to Monsanto Co., W. G. Krummrich Plant, Sauget, Illinois, Attention Supervisor Dept. A-245. It will be incinerated properly, at a charge of 3 cents a pound."

P. G. Benignus

cs

EXHIBIT 91 2/20/19 BSO

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IN-10 REV. 11-65

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